A STYDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS IN A SELECTED SCHOOL AT ERODE DISTRICT.

By

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under the guidance of

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This is to certify that the dissertation entitled **"A STYDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS IN A SELECTED SCHOOL AT ERODE DISTRICT.** Is a bonafide research work done by **Mrs. DURGADEVI** under the guidance of **Prof. M.LATHA, M.Sc (N), M.B.A., Ph.D., HEAD OF THE DEPARTMENT OF MEDICAL SURGICAL NURSING.**

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"In all your ways acknowledge Him ,and

He will make your path straight '

Proverb-3:6

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Last but not least, I would sincerely thank all the members and colleagues who have directly or indirectly helped me in the successful completion of the study.

ABSTRACT

STATEMENT OF THE PROBLEM:

"A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAM ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS IN A SELECTED SCHOOL AT ERODE DISTRICT".

OBJECTIVES OF THE STUDY:

- To assess the knowledge regarding basic cardiac life support among school teachers.
- To evaluate the effectiveness of video assisted teaching programme on the knowledge on basic cardiac life support among the school teachers.
- To find out the association between the level of knowledge with the selected demographic variables.

HYPOTHESIS:

H_1: The mean post test score of knowledge will be significantly higher than the mean pre-test score of knowledge of school teachers regarding basic cardiac life support.

H_2: There will be a significant association between the level of knowledge on basic cardiac life support and selected demographic variables of school teachers.

METHOD OF STUDY :

The research approach adopted for the study was evaluative and educative approach. The research design adopted for this study was pre-experimental design.

The purposive sampling technique was used for the selection of school teachers which includes a sample of 30 school teachers.

Data was collected by using a structured questionnaire, which consist of three sections.

Section 1: Demographic variables of the school teachers.

Section 2: Questionnaire regarding knowledge of basic cardiac life support.

Section 3: Knowledge checklist on basic cardiac life support procedure.

RESULTS

Among the subjects, 53% of them belong to the age group of above 36 years. Also 90% were female and 50% had completed B.Ed., 37% of the samples were of having 2-5 years of experience.

In the pre-test, 80% of the school teachers had inadequate knowledge and 20% had moderately adequate knowledge and in the post-test 27% were moderately adequate knowledge and 73% had adequate knowledge regarding basic cardiac life support.

The difference between the overall pre-test and post-test knowledge mean score was 23.96% which reveal the effectiveness of video assisted teaching program

on basic cardiac life support. Hence there was a significant increase in level of knowledge of the school teachers regarding basic cardiac life support after their exposure to the video assisted teaching programme on basic cardiac life support.

Further, the paired t' test was used to find the significant difference between the overall pre-test and post-test knowledge score. The't' value <29.42> was significant at $p<0.05$. Hence there was significant difference between the overall pre-test and post-test knowledge score, and that difference was due to the exposure of the school teachers to video assisted teaching programme.

There was no significant association between the level of knowledge with demographic variables.

CONCLUSION

The present study assessed the knowledge regarding basic cardiac life support among the school teachers and found they had inadequate knowledge. After video assisted teaching programme on basic cardiac life support there is a significant improvement in the level of their knowledge. The study concluded that the video assisted teaching programme was effective in improving the knowledge regarding basic cardiac life support.

KEYWORDS:

Effectiveness, video assisted teaching programme, knowledge, basic cardiac life support

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INTRODUCTION

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INTRODUCTION:

"The best and most beautiful things in the world cannot be seen or even touched they must be felt with the heart".

- Helen Keller.

"Oh God, a rhythmic music in my heart slows down,

My lungs not open its way to enter the air,

Please help me to respire, save my heart and give me a life"

The human heart is an organ that pumps blood throughout the body via the circulatory system, supplying oxygen and nutrients to the tissues and removing carbon dioxide and other waste.

The tissue of the body needs a constant supply of nutrition in order to be active. If it is not able to supply blood to the organs and tissues, they will die.

- Dr. Lawrence Phillps.

Each year, a number of persons suffer with an accident or illness, severe enough to stop their breathing and leads to respiratory arrest. In a small percentage of these cases, it will even stop their heart beating and lead to cardiac arrest. Sudden cardiac arrest is a major cause of death in developed countries. Sudden death occurs when heartbeat and breathing stops.

The heart is a hallow muscular organ, roughly the size of its owners fist. It takes in deoxygenated blood through veins and delivers it to the lungs for oxygenation before pumping it to the various arteries.

The other common causes of sudden death include heart attack, electrical shock, drowning, chocking, suffocation, trauma, drug reactions, and allergic reactions. The best chance of ensuring their survival is to give them emergency treatment known as cardiopulmonary cerebro resuscitation (CPCR).

CPCR can consist of many different things, but the initial, vital part is Basic Life Support (BLS). Cardio means “of the heart” and pulmonary means “of the lungs”. Resuscitation is a medical word that means “to revive” or bring back to life. Sometimes cardio pulmonary resuscitation (CPCR) can help a person who has stopped breathing, and whose heart may have stopped beating, to stay alive.

Cardiopulmonary Cerebro Resuscitation (CPCR) is a procedure to support and maintain breathing and circulation. Cardio pulmonary cerebro resuscitation is part of the emergency cardiac care system designed to save lives. Many deaths can be prevented by prompt recognition of the problem and notification of the Emergency Medical System (EMS), followed by early cardiopulmonary cerebro resuscitation, defibrillation and advanced cardiac life support measures.

Resuscitation measures are divided into two components, basic cardiac life support and advanced cardiac life support. The American Heart Association establishes the standards for CPCR and is actively involved in teaching BCLS and ACLS to health professionals. The American Heart Association recommends that nurses and physicians working with patients be certified in BCLS and ACLS. CPCR alone is not enough to save lives in most cardiac arrest. It is a vital link in the chain of survival that supports the victim until more advanced help is available. The chain of

survival is composed of the following sequence: early activation of the EMS system, early CPCR, early defibrillation and early advanced care.

Recommending that chest compressions be the first step for lay and professional rescuers to revive victims of sudden cardiac arrest, the association said the A – B – Cs (Airway – Breathing – Compressions) of CPCR should now be changed to C – A – B (Compressions – Airway – Breathing). For more than 40 years, CPCR training has emphasized the ABCs of CPCR, which instructed people to open a victim's airway by tilting their head back, pinching the nose and breathing into the victim's mouth, and then giving chest compressions. This approach was causing significant delays in staring chest compressions, which are essential for keeping oxygen – rich blood circulating through the body. Changing the sequence from A-B-C to C-A-B for adults and children allows all rescuers to begin chest compressions right away.

Cardiopulmonary Cerebro Resuscitation (CPCR) must be performed within four to six minutes after cessation of breathing, so as to prevent brain damage or death. It is two part procedure that involves rescue breathing and external chest compression. To provide oxygen to a person's lungs, the rescuer administer mouth to mouth breaths, and then helps to circulate blood through the heart to vital organs by external chest compression.

People who handle emergencies such as police officers, firefighters, paramedics, doctors and nurses are all trained to do CPCR. Many other teens and adults like lifeguards, teachers, child care workers, and may be even our mom or dad may know how to do CPCR too. Many people may think we need to get a degree to

get a healthcare job, but the truth is many jobs simply require applicants to be CPCR and First Aid certified Courses to receive certification in CPCR and First Aid are offered at colleges, technical schools, and Red Cross facilities across the country. This makes getting certified easy and very accessible to anyone. People can get both certifications as young as 16 years of age. This means they can start getting credible work experience at an earlier age, which will only help them out more down the road. And since the courses are so short, it does not have to interfere with high school.

NEED FOR THE STUDY

CPCR is a rescue procedure to be used when the heart and lungs have stopped working. There is a wide variation in the reported incidence and outcome for out of hospital cardiac arrest. These differences are due to definition and ascertainment of cardiac arrest as well as differences in treatment after its onset.

Studies reporting the need for improvement of resuscitation techniques led to the recent changes in BLS and ALS algorithms.

Cardio vascular disease is a leading factor causing morbidity and mortality, both in the developing and developed countries around the world. Angina pectoris (chest pain caused by insufficient blood supply to the heart) and acute myocardial infarction (Heart attack) are the two most common features of coronary heart diseases, also known as coronary artery diseases. According to the estimation of World Health Organization (WHO) in 2004, 17% million people around the world died from cardiovascular disease and the number is expected to grow to 23.4 million in 2030. “Non-specific” chest pain was the fourth most common cause of emergency visit, which accounted for 1.6 million visits in 23 selected states.

In the United States, more than 1,000 people die every day from sudden cardiac arrest. Some study suggests that, those who stay up late may be more prone to heart disease even if they get eight hours sleep. Also, in one study, women who slept five hours or less in night were 39% more likely to develop heart disease, than women who got eight hours sleep. All of this is possible due to habits or events associated with late nights or short sleep hours rather than the time factors them selves.

Approximately 40% of heart attack victims die before they reach a hospital. In 2006, heart disease death rates were highest in Mississippi and lowest in Minnesota. Dangers of Sudden Cardiac Arrests (SCA) can lead to death of an individual within a few minutes. As per WHO statistics mortality due to cardiac arrest approximately 4280 out of every one lakh people die every year from SCA in India alone. After a cardiac arrest there are four to six minutes before brain death and death occur. Chances of survival reduce by 7 – 10 percent with every passing minute. It is a silent epidemic. Cardiac arrest is reversible if the victim is administered prompt and appropriate emergency care. This generally involves administration of cardiopulmonary resuscitation (CPCR), shock treatment to the chest to rest the heart's rhythm (defibrillation) and advanced life support.

In India the annual incidence of sudden cardiac death accounts for 0.55 per 1000 population. The survival rate of a sudden cardiac arrest is almost less than 1%. Sudden cardiac death constitutes 40 – 45% of cardiovascular deaths and out of this almost 80% are due to heart arrhythmia disturbances or arrhythmia.

Each year almost 330,000 people die from heart disease. Half of these will die suddenly, outside of the hospital because their heart stop beating. The most common

cause of death from heart attack in adult is a disturbance in the electrical rhythm of the heart or ventricular fibrillation. It can be treated by applying an electrical shock to the chest. One way of buying time until a defibrillator becomes available is to provide artificial breathing and circulation by performing CPCR.

Over one million heart attacks happen every year and more than 20% of people die before ever reaching a hospital. Latest data shows that cardiac arrest is becoming the number one cause of death. In fact, studies show that 80% of all cardiac arrests happen at home which will most likely be a family member or friend.

In April 2008, the American heart association took steps to simplify the process of helping victims of cardiac arrest by introducing “hands only’ CPCR. About one third of people who suffer a cardiac arrest at home or at a public place actually receive help, bystanders could be afraid to initiate CPCR for fear that they will do something wrong or won’t know what to do. Others may be reluctant to perform mouth to mouth breathing for fear what to do. Others may be reluctant to perform mouth to mouth breathing for fear of contracting an infection. The American heart association proposed the new guidelines in order to allow bystander who have not been trained in conventional CPCR or who may fear of making mistake on the way to offer help.

Survival in hospital and they reviewed that CPCR records, 44% of the patient initially survived following CPCR, and the 1 – year survival rate was 5% patients with shorter duration of CPCR and those administered fewer procedures and medications during CPCR survival longer than patients with prolonged CPCR. Knowledge of the likelihood of survival following CPCR for subgroups of the

hospital population based on prearrest and intra arrest factors can help patients, their families, and their physicians decide with compassion and conviction, in what situations CPCR should be administered

Various studies suggest that in out – of – home cardiac arrest, bystanders, lay presons or family members attempt CPCR in between 14% and 45% of the time, with a median of 32%. Internationally, rates of bystander CPCR reported to be as low as 1% and as high as 44%. However, the effectiveness of this CPCR is variable, and the studies suggest only around half of bystander CPCR is performed correctly. These experts believe that better training is needed to improve the willingness to respond to cardiac arrest.

In the light of above, the investigator found it is desirable to assess the knowledge and skill in CPCR technique among the school teacher and also to update the knowledge and improvement in skill. The way to learn CPCR is to practice CPCR. Educating the teachers and creating awareness in helping to learn more about CPCR and it help to prevent death at schools. Early initiation of CPCR improves the chance of successful resuscitation and survival.

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3. To find out the association between the level of knowledge on basic cardiac life support with the selected demographic variables of school teachers.

OPERATIONAL DEFINITIONS:

Effectiveness:

It refers to the extent to which the teaching programme had brought about the result intended and measured in terms of significant knowledge gained in post-test.

Video Assisted Teaching:

It is systematically developed instruction and teaching aids to provide information regarding basic cardiac life support with help of video.

Knowledge:

Facts, information and skill acquired by a person through experience or education. The theoretical or practical understanding of a subject.

Assess:

It is the organized, systematic and continuous process of collecting data from the school teachers regarding cardio pulmonary resuscitation.

Cardiopulmonary Cerebro Resuscitation:

Cardiopulmonary Cerebro Resuscitation is a procedure to support and maintain breathing and circulation for a person who has stopped breathing (Respiratory arrest) and for whose heart has stopped (Cardiac arrest).

Teacher:

A person who teaches especially in a school, after obtaining the basic qualification in teaching.

HYPOTHESIS:

H_1 : The mean post test score of knowledge on basic cardiac life support will be significantly higher than the mean pre test score of knowledge of school teachers regarding basic cardiac life support.

H_2 : There will be a significant association between the level of knowledge on basic cardiac life support and selected demographic variables of school teachers.

ASSUMPTION:

1. School teachers may have limited knowledge on basic cardiac life support.
2. Video Assisted teaching is an effective way to improve the knowledge of school teachers regarding basic cardiac life support.
3. School teachers have the potential to learn about basic cardiac life support.

4. School teachers should have some basic knowledge about cardiac life support to help the students in case of any emergencies.

LIMITATION:

1. The study is limited to those who are willing to participate.
2. The sample is limited to 30
3. The study is limited to teachers who could able to read and write English.
4. The study is limited to those who were available during data collection.

CONCEPTUAL FRAME WORK:

A theoretical frame work is the precursor of a theory. It provides broad perspectives for nursing practice, research and education. Theoretical frame work plays several inter-related roles in the progress of science. Their overall purpose is to make scientific and meaningful findings and also generalize the findings. (Polit & Hungler, 1995).

Theoretical frame work provides description of variable suggesting was of methods to conduct the study and guiding the interpretation, evolution and integration of study findings stated that (Wood and Harbon 1994).

The present study is focused on assessing the effectiveness of video assisted teaching on knowledge and practice of basic cardiac life support among school teachers.

This study is based upon J.W.Kenny's open systems model. The systems theory is concerned with changes due to interaction between various factors in a situation. All living system are open in which there is a continual exchange of matter, energy and information, open system have varying degrees of interactions with the

environment from which the system receives input and gives back output in the form of matter, energy and information.

The concepts of Kenny's open system model are input, throughput, output and feed back. Input refers to matters and information which are continuously processed through the system and released as output. After processing the input, the system returns output to the environment in an altered state, affecting the environment for information to guide its operation. The feed back information of environment responses to the systems output is used by the system in adjustment correction and interaction with the environment. Feed back may be positive, negative or natural. In this study the concepts have been modified as follows.

INPUT:

According to J.W. Kenny input can be matter, energy and information from the environment. In put is the assessing the knowledge on basic cardiac life support among the school teachers.

THROUGH PUT:

Throughput is the processing of information of basic cardiac life support through video assisted teaching on basic cardiac life support which is processed for the school teachers.

OUTPUT:

The expected outcome is obtained by assessing the knowledge through knowledge questionnaire and procedure checklist. The output was considered in terms of change in post test knowledge scores obtained through close ended questionnaire and by procedure check list.

FEED BACK:

Difference in the pre and post test score was observed from the knowledge scores of the samples. In the present study the feed back was considered as a process of maintaining the effectiveness of video assisted teaching. It is assessed by comparing the pre and post test scores through the 'r' value.

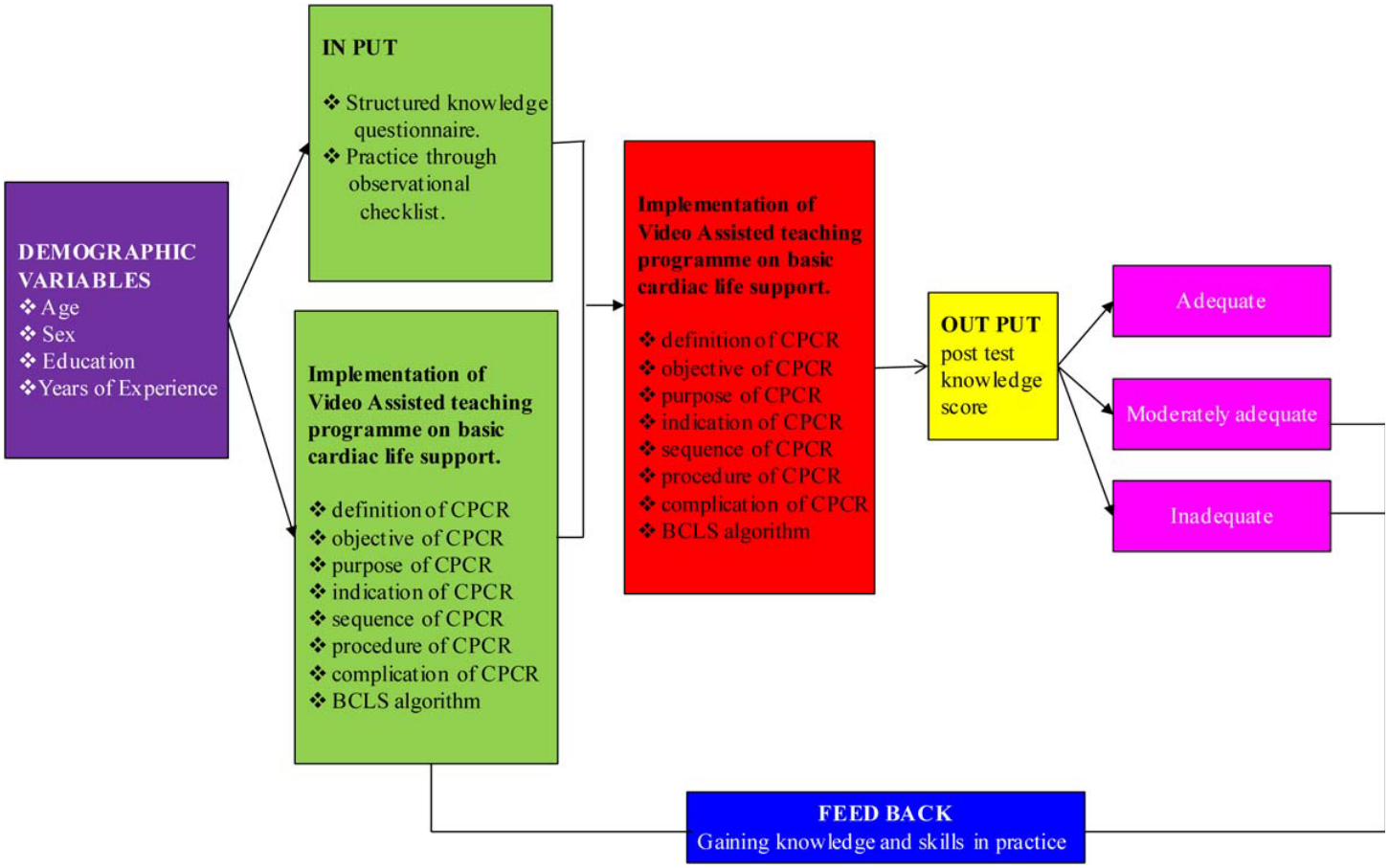


Fig 1: Modified theoretical frame work based on general system theory by J.W Kenny's (1986)

CHAPTER - II

REVIEW OF LITERATURE

CHAPTER – II

REVIEW OF LITERATURE

"Knowing is not enough; we must apply

willing is not enough; we must do"?

- Johann Wolfgang von Goethe.

Literature review is a key step in the research process. Polit and Hungler defined Review of literature as "A broad, comprehensive, in-depth, systematic and critical review of scholarly publications, unpublished scholarly printed materials, audio visual material and personal communication".

According to Basavanthappa, "It refers to an extensive, exhaustive, systematic examination of publications relevant to the research project".

One of the most satisfying aspects of the literature review is the contribution it makes to the new knowledge, insight and general scholarship of the researchers. 'A literature review is a combination of resources that provide the ground work for future study.'

Review of relevant literature refers to both the activities involved in searching the information on a topic as well as to the actual written report that summarizes the state of the existing knowledge on a topic is generally facilitated by the use of various obstructing and indexing services.

In order to accomplish the goal in the present study, an attempt has been made to review and discuss the literature under following sub headings.

i) Studies related to Incidence and prevalence of cardiac arrest

ii) Studies related to the knowledge of basic cardiac life support.

iii) Studies related to the skill of basic cardiac life support.

iv) Studies related to the effectiveness of video assisted teaching.

A. STUDIES RELATED TO INCIDENCE AND PREVALENCE OF CARDIAC ARREST:

TVS Murthy and Bhavna Hooda, September 13, 2012. The study conducted related to cardio cerebral resuscitation is better than CPCR. The guidelines for CPCR have been in place for decades; but despite their international scope and periodic update there has been improvement in survival rates in out – of – hospital cardiac arrests for patients who did not received early defibrillation. Instituting the new cardio cerebral resuscitation protocol for managing pre – hospital cardiac arrest improved survival of adult patients with witnessed cardiac arrest and an initially shock able rhythm.

Dr. H. Shankar (2008). The study conducted related to cardiac arrest and CPCR. The study shows that the sudden cardiac arrest in the hospital setup can be anticipated at any time. Are be prepared to handle such as event around us? We are experienced is our emergency department during the month April 2008. The patients were successfully resuscitated and went home after few days walking their own without any neurological deficits.

Benjamin S. Abella et al (2005) conducted a study on **quality of cardiopulmonary resuscitation during in hospital cardiac arrest. The main objective of this study is** to measure multiple parameters of in – hospital CPCR

quality and to determine compliance with published American Heart Association and international guidelines. The sample consisted of 67 patients who were experienced in – hospital cardiac arrest at the University of Chicago Hospitals, Chicago. The result of this study indicated that the importance of high – quality CPCR suggests the need for rescuer feedback and monitoring of CPCR quality during resuscitation effort.

Vanderschmidt H, Burnap TK, Jhwaties J.K. 1975 Sep; 13(9) A study conducted by evaluation of a cardio pulmonary resuscitation use for secondary schools. The objective of this study was to test the feasibility to teaching secondary school students to perform cardio pulmonary resuscitation fifty five percent of the practice group in the initial test and 31 percent of the retention studies were able to perform the skills. The study suggests that it is possible to train secondary school students to perform the ABC, of CPCR if they have an opportunity to practice their skill. The study also suggests that the teacher training is an important factor.

II. STUDIES RELATED TO KNOWLEDGE ON CPCR:

Resuscitation is a technique used by professional health care staff, as well as member of the public. It is essential for all health care professionals to be able to perform basic life support, and training for staff who is commonly involved with resuscitation attempts must take place on a regular basis. If a cardiac arrest occurs in the community, the patient must be moved onto a hard surface and placed on his or her back. Quickly make the environment appropriate for performing life – saving procedures. This could mean moving chairs or tables.

Mani G., Annadurai K., Danasekaran R., Ramasamy JD. 2015 This study aimed to explore the knowledge, attitudes, and practices related to BLS among under

graduate medical students of a medical college in Tamilnadu, India. This was a descriptive, cross-sectional study conducted among 241 under graduate medical students of a medical college in Tamilnadu, using a pretest, semi-structure questionnaire devised based on American Heart Association Guidelines for BLS and CPR2010. Results of the study is, the mean knowledge score of the participants was 4.55 ± 1.21 out of a possible high score of 6.The level of knowledge and attitudes related to BLS varied depending on the year of study, and this difference was statistically significant ($p<0.05$). The knowledge score decreased with increasing duration of training. The higher the year of study, the more positive the participants' attitudes were. Only 12.9% of the participants had ever practiced BLS. Twenty-one (21) participants (8.7%) expressed reluctance about performing BLS in a hospital setting, and 57.3%ofthe participants expressed reluctance about performing BLS in an out-of-hospital setting. Fear of acquiring infection, causing harm to the victim, and lack of confidence were the common causes for participants' reluctance

Jan Stroobants, Koenraad G. Monsieurs, Bart Devriendt, Christa Dreezen, Philippe Vets, Pierre Mols 2014 children from primary and secondary school (age span 11–13 years) received a free individual CPR training package containing an inexpensive manikin and a training video. After a CPR training session by their class teacher, they were invited to teach their relatives and friends. After the training, the trainees of the children were invited to participate in a web survey, containing a test and questions about prior CPR training and about their attitude towards bystander CPR (BCPR) before and after the training. We measured the impact on the attitude to perform BCPR and the theoretical knowledge transfer by the children. A total of 4012 training packages were distributed to 72 schools of which 55

class teachers subscribed their students ($n = 822$) for the training programme for relatives and friends. After a validation procedure, 874 trainees of 290 children were included in the study. In comparison to trainees of secondary schoolchildren, trainees of primary schoolchildren scored better for the test as well as for a positive change of attitude towards future BCPR ($P < 0.001$). For every child-instructor 1.7 people changed their attitude towards BCPR positively.

Tom sermons, August 2, 2011, A wealth of recent research reaches the same conclusion; those who suffer cardiac arrest are far more likely to survive long – term if a bystander immediately begins proper CPCR. That's especially true when emergency medical personnel are unable reach the scene within eight minute. But – considering that brain damage from lack of blood begins as soon as four minutes after heart failure, the need to CPCR administration is vital, in the truest sense of the word, no matter how good you thing EMT response – time is in your area. And there's more: If you learned CPCR five or more years ago, you are almost certain to apply it incorrectly. Granted, survival rates are higher even among those who receive outdated CPCR, but the American Heart Association now stresses that maintaining blood flow to the organs is more important than trying to restore breathing via mouth – to – mouth resuscitation. In fact, a study published in The Lancet several months ago found survival rates heart attack victims are subtending compressions with breaths into the victim's lungs is less effective. Also, note the italicized word above – proper. Chest compressions must be performed with the right combination of repetition and depth to achieve optimal results. In a word, that means training. It's not a matter of instinct or common sense to know how hard and how often to press down on a cardiac victim's sternum. The fact is that it's harder and more frequent than an untrained

person is likely to realize. Here's a hint about compressions; more than on per second! While a 911 dispatcher can you give you basic information over the phone, nothing takes the place of training, which is so readily accessible in almost every community!

Karan Prakash Singh 2 May 2011 and team The study to assess the knowledge and personal experience with CPCR among dentist in Udaipur India. This study shows that 75.9% of dentist had received information about basic CPCR but only 66.0% had the current concept of performing it and only 12% had received practical training in basic CPCR. 1 in 10 dentists had seen patients suffering from cardiopulmonary arrest in their practice, but none – of them mentioned any fatality, because CPA. The level of knowledge was significantly higher among faculty dental practitioner compared with local dental practitioner. In addition a positive linear correlation was found between educational level and knowledge level.

Choa M, Cho J, et.al., 2009, USA, stated that is study was a single blind randomized controlled trial. The participants' last CPCR trainings were held at least six months ago. We revised our CPCR animation for on-site CPCR instruction content emphasizing importance of chest compression. These video clips were assessed by three evaluators using a checklist. Using the 30-point scoring checklist, the AA-CPCR-II group had a significantly better score compared to the control group. Psychomotor skills evaluated with the AA-CRP-II group demonstrated better performance in hand positioning, compression depth and compression rate than the control group.

Roppolo LP, Pepe PE. et.al., 2009, conducted the study by Fleishhack1 and coworkers, teachers as young as 9 years were able to successfully and effectively

learn basic CPCR skills, including automated external defibrillator deployment, correct recovery position, and emergency calling. As in adults, physical strength may limit the depth of chest compressions and ventilation volumes given by younger individuals with low body mass index; however, skill retention is good. In addition, early training not only sets the stage for subsequent training and better retention, but it also reinforces the concept of a social obligation to help others.

Bertoglio VM, 2008, conducted the study in Brazil, during July and August. Teachers were assigned to groups 1 (33 teachers, in units equipped with a heart monitor and a cardiac defibrillator) and 2 (23 teachers, in units without this equipment). Teachers in group 1 showed better knowledge on the recognition of electrocardiography recordings, and 91% of them recognized the ventricular fibrillation algorithm. Among teachers in group 2, 85% had knowledge on issues relative to basic care. The results showed that training in CPCR generates positive results.

Omi W, 2008, Japan, conducted the study to identify the current conditions of CPCR training in Japanese high schools and the attitudes of teachers toward CPCR. We distributed a questionnaire study to the teachers of 12 cooperating high schools regarding their willingness to perform CPCR in 5 hypothetical scenarios of cardiopulmonary arrest. Most of the respondents, who reported that they would decline to perform full CPCR, stated that poor knowledge and/or fear of incomplete performance of CPCR were deciding factors.

Toner P, et.al., 2007, conducted the study in United Kingdom, a course of instruction in cardiopulmonary resuscitation (CPCR) the 'ABC for life' programme

specifically designed to teach 10-12 years old children basic life support stills. Medical teachers taught teachers from the western education and library board area of Northern Ireland how to teach life support stills. Medical teachers taught teachers from the western education and library board area of Northern Ireland how to teach basic life support skills. The research findings are that significantly improved score following training. This study demonstrates that primary school teachers, previously trained by medical teachers, can teach BCLS effectively using the 'ABC for life' programme.

Youngblood P, et.al., 2007, conducted the study created a virtual 3 D world for learning to manage medical emergencies and evaluated it with 24 high school teachers in the USA and Sweden. We found that teachers in both groups felt immersed and found the online simulation easy to use. Scores for flow and self-assessed flow were significantly higher for the RHS group as compared to the HG group. Self-efficacy scores for the HG group were significantly higher after training.

Micro. O, et.al. 2006, conducted the study in Barcelona which has 227 public and private secondary schools. A hypothetical cardiopulmonary resuscitation program split into two parts (concepts and training) was introduced to all Barcelona secondary school head teachers. The research findings are that one hundred out of 227 (44%) surveys were sent back: 63% from private and 37% from public secondary schools with 85% of head teachers being interested in incorporating a CPCR – Programme in the school curriculum. Teachers would prefer healthcare provides to give the programme but would be willing to touch B-CPCR theory if trained previously.

Diaz N, et.al., 2005, conducted the study in Spain, to assess the degree of teachers' learning, they were administered a 20-question test before and after the program. Teachers were 14 years old in 38%, 15 in 38% and 16 or more in 24%. Before PROCESS, the mean mark (over 20 points) was 8.5 (2.4). After PROCESS, marks improved up to 13.5 (3.2) ($p<0.001$). Participants who had previously taken a first-aid course or were in the 4th course obtained significantly marks than the rest. These differences disappeared after PROCESS completion.

Lafferty C, 2003, New Zealand, conducted the study to determine the frequency of, and factors influencing, CPCR teaching in New Zealand primary and secondary schools. At the end of the 2001 school year, we surveyed by questionnaire every school in New Zealand asking which schools taught CPCR skills during CPCR skills, or other life-saving first aid, and that the majority of secondary schools are treating these subjects as optional, taught only to a small proportion of teachers.

Sosada K, 2002, conducted the study to teachers from Silesian voivodeship from November 2001 to March 2002. The study was based on a sample of 227 secondary school teachers (34 males and 193 females) and 79 secondary school teachers (28 males and 51 females). The anonymous survey evaluating the level of first aid knowledge was carried out. It consisted of general and particular part. 7 of surveyed teachers achieved an excellent result, 57 a good result and 163 represented inadequate level of knowledge. None of surveyed teachers achieved an excellent result, 11 achieved a good result and 63 represented inadequate level of knowledge. Higher level of knowledge was presented by those with a driving licence.

III. STUDIES RELATED TO THE SKILL OF BASIC CARDIAC LIFE SUPPORT:

Thomas D. Rea, M.D., Carol Fahrenbruch, M.S.P.H., Linda Culley, B.A., 2016, A study conducted was found that the role of rescue breathing in cardiopulmonary resuscitation (CPR) performed by a layperson is uncertain. The study hypothesized that the dispatcher instructions to bystanders to provide chest compression alone would result in improved survival as compared with instructions to provide chest compression plus rescue breathing. The study conducted in a multicenter, randomized trial of dispatcher instructions to bystanders for performing CPR. The patients were persons 18 years of age or older with out-of-hospital cardiac arrest for whom dispatchers initiated CPR instruction to bystanders. Patients were randomly assigned to receive chest compression alone or chest compression plus rescue breathing. The primary outcome was survival to hospital discharge. Secondary outcomes included a favorable neurologic outcome at discharge.

Of the 1941 patients who met the inclusion criteria, 981 were randomly assigned to receive chest compression alone and 960 to receive chest compression plus rescue breathing. We observed no significant difference between the two groups in the proportion of patients who survived to hospital discharge (12.5% with chest compression alone and 11.0% with chest compression plus rescue breathing, P=0.31) or in the proportion who survived with a favorable neurologic outcome in the two sites that assessed this secondary outcome (14.4% and 11.5%, respectively; P=0.13). Prespecified subgroup analyses showed a trend toward a higher proportion of patients surviving to hospital discharge with chest compression alone as compared with chest compression plus rescue breathing for patients with a cardiac cause of arrest (15.5% vs. 12.3%, P=0.09) and for those with shockable rhythms (31.9% vs. 25.7%, P=0.09).

Hill K, et. al., 2009, United Kingdom stated that eighty-five school teachers were given a 2-h CPCR training programme. After 2 months they were randomised into two groups and asked to perform CPCR on a resuscitation skills reporter manikin for 3 min at a ratio of 30:2 followed by 5 min rest, then for 3 min at 15:2 (or vice versa). Teachers are capable of performing effective CPCR after a single, 2h training session in cardiopulmonary resuscitation given in school. The group are able to achieve greater depth of chest compressions, when using a ratio of 30:2.

Winkelman JL, et.al., 2009, USA, conducted a study to 582 teacher credential candidates, who were 95.2% of those surveyed after completion of a health science course and CPCR, certification. Participants described their attitudes regarding the importance of CPCR, the CPCR training course, and their willingness to perform CPCR in a school environment. Participants certified multiple times stated that they were more likely to perform FBAO skills on both conscious and

unconscious victims, as were participants who believed CPCR to be an important skill for teachers.

Azhar AA, 2008, Malaysia stated that a mass CPCR (Cardio-Pulmonary Resuscitation) teaching programme, believed to be the first in Malaysia, this programme was conducted for 200 first years UM teachers. We describe the organisation of this non-traditional and non-threatening, new CPCR teaching programme and purpose that this be further developed for the dissemination of CPCR skills to our Malaysian public.

Wang XP, 2008, China, teachers were randomly divided into 2 equal groups, control group receiving PBL and training of specific operation such as artificial respiration, external cardiac compression, tracheal intubation, and defibrillation, and ECS group receiving ECS training in addition. A questionnaire survey was conducted to collect the feedback. There were significant differences between the Control group and the ECS group.

Kelley J, et.al., 2006, USA, conducted a study to evaluate a new, 1-h, condensed training programme to teach continuous chest compression cardiopulmonary resuscitation (CCC-CPCR) skills to a cohort of eight grade public school teachers. Following initial training 29/33 subjects demonstrated skill retention in similar scenario testing. Subjects also showed improvement in written knowledge regarding CPCR use as shown by scores on an AHA based written exam.

Ward P, et.al., 2005, USA, conducted the study to compare the effects of two checklists designed to prompt correct CPCR performance. We compared the performance of 169 teachers, at the time of course assessment, with retention testing

that occurred 2 months following the course assessment two groups of variables were created: procedural and compression-ventilation variables. Comparisons between groups yielded significant differences of $P<0.05$.

Handley JA, 2003, London, stated that the study is an attempt to see if simplifying the teaching of basic life support leads to better skill acquisition and retention. Forty-eight lay volunteers received instruction in CPCR; 24 were taught the standard 8-step sequence whereas 24 were taught a simplified 4-step sequence. Tests of performance were carried out on a manikin before and after training. Those in the 4-step group were significantly better than those in the 8-step group at remembering the sequence of skills immediately after training, 1 week later and at 6 weeks.

Gasco C, 2000, Spain, stated that one hundred and sixteen second-year undergraduate teachers of Anaesthesiology at the Dental School of the Complutense University in Madrid were tested at the end of the two periods of learning using a recording manikin with a validated scoring system (Laerdal Resusci-Anne). This manikin recorded the percentage of adequate chest compressions and insufflations, rate of chest compressions and the causes of error in each case. Regression analysis found a positive correlation among excessive compression, height and weight and a negative correlation between weak compression, height and weight.

IV. STUDIES RELATED TO THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING:

Todd KH , Braslow.A Brennan RT.et.al (2015), Research Confirms that Multimedia and Blended CPR and AED Training is Superior to Traditional Training.

Trainees who Completed Multimedia Self-Instruction CPR Program Outperformed their Traditional Training Counterparts. Education researchers from Harvard University confirmed that multimedia training was superior to traditional AHA Multimedia Self Instruction Program for CPR is as Effective as a Traditional AHA Instructor Led Training Class in Adults Likely to Witness a Cardiac Arrest.

Researchers from the University of Chicago and the University of Washington 2014, confirmed that a 30 minute multimedia CPR training program is more effective at training adults between 40 and 70 years of age than the traditional 4-hour instructor led classroom training. Researchers conducted a randomized controlled study evaluating the effectiveness of 1) a 30 min. DVD self-instruction program and manikin vs. 2) a traditional 4 hour American Heart Association, instructor-led, CPR training class in adults between the age of 40 and 70, those most likely to witness a cardiac arrest. The researchers determined that the CPR performance data showed a clear pattern of evidence in favor of utilizing the 30 minute DVD. The authors concluded that the shorter, self-paced multi-media CPR training program offers potential learners logistical convenience, a comfortable learning environment, and time efficiency without compromising acquisition of CPR skills.

Sarac L, et.al., 2010, Belgium, conducted the study evaluate the effects of traditional, case-based, and video-based instructional methods on acquisition and retention of CPCR skills. Ninety university teachers (52 female, 48 male) who selected the first aid course as an elective were assigned randomly to traditional, case-based, and Video-based instruction groups. The teachers were tested three times (pre-test, post-test and retention test) for their measurable and observable CPCR skills by

using a skill reporter manikin and skill observation checklist. The teachers in traditional and case-based instruction group that used video self-instruction as a learning tool.

Friesen L, et.al., 2009, Denmark, conducted the study in a university school. The teaching methods studied were a lecture-demonstration-return demonstration method and a self-paced method. The sample consisted of 63 baccalaureate teachers who were assigned to one of the two teaching methods. American Heart Association instructional materials and cognitive and performance tests were used with both treatment groups. Initial mastery and retention were tested during week two and eight respectively. However, neither group was able to demonstrate retention of performance skills at a mastery level. The result of this study was effective.

Nishiyama C, et.al., 2009, Japan, conducted the study to evaluate the effectiveness of 1-h practical chest compression-only cardiopulmonary resuscitation (CPCR) training with or without a preparatory self-learning video. The primary outcome measure was the total number of chest compressions during a 2-min test period. 1-h chest compression-only CPCR training makes it possible for the general public to perform satisfactory chest compressions. Although a self-learning video encouraged people to perform CPCR, their performance levels were not sufficient, confirming that practical training as well is essential.

Kulkarni H, et.al., 2007, Norway, conducted the study to compare laypersons long-term retention of life-saving psychomotor and cognitive skills learned in the traditional multi-hour training format for basic cardiopulmonary resuscitation. Using

innovative learning techniques and videos, 30-min cardiopulmonary resuscitation training is as effective as traditional multi-hour courses, even after 6 months.

Younas S, et.al., 2006, United Kingdom stated that study to evaluate the effect of a cardio pulmonary resuscitation training programme on the knowledge, attitudes and application of BLS in Manchester, United Kingdom. Teachers from two schools who had piloted Opportunities for Resuscitation and Citizen Safety (ORCS) in the academic year 2004/2005 volunteered to partake in the study. This study demonstrates that training through the ORCS scheme has a positive influence on the ability of secondary school teachers to perform emergency life support (ELS), but particularly in their ability to deploy a perform CPCR.

Van Kerschaver E, 2000, Belgium, conducted this study was to evaluate skills, knowledge and attitude concerning cardio pulmonary resuscitation, after respectively one two training sessions. 265 teachers from 4 different school levels were trained. 6 months later 134 answered a questionnaire and were again trained in CPCR, 129 teachers answered the same questionnaire and were tested for their skills in CPCR. The steps concerning mouth-to-mouth breathing and external thoracic compressions reach, 5 months after the training, an average of 1.6 out of 2 as compared to 1.44 out of 2 after one training.

CHAPTER- III

METHODOLOGY

CHAPTER – III

METHODOLOGY

"Everybody has a talent, but if you do not expose yourself you will not birth the talents within you"

-Spike Lee

Methodology is the major phase of research in which the investigator makes a number of decisions about the methods and materials to be used to study the research problem basically through the collection of data.

(Polit & Hungler, 1999)

This chapter deals with the methodological approach adopted for the study. The purpose of the study is to assess the knowledge and practice of the school teacher regarding basic cardiac life support with the effectiveness of video assisted teaching.

The methodology includes description of research approach, research design, site and setting, sampling technique, department of the instrument, validation of the instrument and its reliability, methods of data collection, pilot study and plan for statistical analysis.

RESEARCH APPROACH :

Research approach is the most significant part of any research. The appropriate choice of research depends upon the purpose of the research study, which has been undertaken.

The research approach adopted for this study is an educative and evaluative approach.

Quantitative approach – Educative and Evaluative approach.

RESEARCH DESIGN:

The research design refers to the researcher's overall plan for obtaining answers to the research questions and for testing the research hypothesis. The research design spells out the strategies that the researcher adopts to develop information that is accurate, objective and interpretable.

(Polit D.F., Hungler B.P., 2002)

For this study the research design chosen is pre-experimental design. That is one group pre test and post test.

Group	Pre-Assessment	Intervention	Post Assessment
Experimental	O_1	X	O_2

Key O_1 = Pre assessment of knowledge and practice on basic cardiac life support

O2 = Post assessment of knowledge and practice of basic cardiac life support

X = Video assisted teaching

VARIABLES:

Variables are the qualities of properties or characteristic of person. Things or situation that change or vary.

- (Burns Nancy 2002)

The variables included in this study are dependent variables, independent variables.

Dependent Variables:

It was the response, behaviours or outcome that was predicted or explained in research (Kothari CR, 2004). In this study, the dependent variables are knowledge and practice of basic cardiac life support.

Independent Variables:

An independent variable is the treatment or experimental activity that is manipulated or varied by the researcher to create an effect on the dependent variable (Kothari. R, 2004), In this study, the independent variable was "Video assisted teaching on Basic Cardiac Life Support".

SITE AND SETTING:

Site – School teachers at Erode District.

Setting – Selected schools at Erode District.

1. Seventh day Adventist Matriculation School, Erode District.
2. Seventh day Adventist Matriculation School, Chitthode, Erode District.

POPULATION:

According to Polit and Hungler, "Population refers to the entire aggregation of cases that meets designed criteria". The requirement of defining a population for a research project arises from the need to specify the group to which the study can be

performed. The population for the present study are the school teachers working at Erode District.

SAMPLE AND SAMPLING TECHNIQUES:

Sample:

Sampling refers to the process of selecting the portion of population to represent the entire population (Polit and hungler 2002)

School teachers who met the inclusion criteria at Erode District.

Sampling technique refers to the process of selecting a portion of the population to prepresent the entire population (Polit and Beck 2007).

Sampling Techniques:

In this study non-probability sampling technique was used, in that purposive sampling was done.

Sample Size:

Sample size for the present study is 30.

CRITERIA FOR SELECTION OF SAMPLE:

Inclusion criteria:

- Able to read English
- Teachers who are willing to participate in the study
- Teachers who are teaching from standard 1 to 12.
- Age group 25-60 years

Exclusion criteria:

- ❖ Teachers who are absent on the day of data collection.
- ❖ Teachers those who undergone in-service education on basic cardiac life support.
- ❖ Not able to read English

SELECTION AND DEVELOPMENT OF INSTRUMENT:

Research instruments also called research tool are the devices used to collected data. The tool facilities the observation and measurement of variables.

The following instruments were developed by the research for the present study.

Section I **:** Demographic variables of the school teachers.

Section II **:** Structured knowledge questionnaire on basic cardiac life support.

Section III **:** Procedure check list on basic cardiac life support.

THE STEPS USED FOR PREPARING TOOL:

Instrument is the written device that a research used to collect data. It includes questionnaire, test, observation schedule and scales **(Burns N 2002)**. The researcher developed the tools from the reviewed literature and those items that were relevant for the study were selected. The tool was developed in order to attain the objectives of the study. The researcher adopted following steps in the development of the instrument.

1. Review of related literature:

The literature (nursing book, medical and surgical book, journals, reports and articles) was referred to prepare the tools and guide also consulted.

2. Preparation of tool:

a. Lesson plan

It consists of preface, physiology of heart, indications of CPCR, importance of CPCR, steps in CPCR and complications of CPCR.

b. Questionnaire

It was prepared to assess the knowledge of school teachers regarding CPCR.

3. Consultations with Guide and Research Committee:

The blue prints were given to the experts in research committee. The research guide and committee members were consulted before finalizing the tool.

4. Preparation of the Final Draft:

Final draft of the tool was prepared after consulting with the expert and research committee.

DESCRIPTION OF THE TOOL:

The tool was organized into 3 sections.

Section I, Section II and Section III.

Section I: Demographic Variables of the school teachers:

A demographic variable consists of 4 items seeking information about age, sex, educational qualification, years of experience.

Section II: Structured Knowledge questionnaire on basic cardiac life support:

It consisted of 45 closed ended multiple choice questions to assess the knowledge of samples regarding basic cardiac life support. The questionnaire was divided into

Part I : Anatomy and Physiology - 10 items.

Part II : Concept of cardiopulmonary cerebro resuscitation - 5 items

Part III : Knowledge regarding airway - 5 items

Part IV : Knowledge regarding breathing - 5 items

Part V : Knowledge regarding circulation - 10items

Part VI : Procedure of basic cardiac life support - 10 items

A score of one was allotted to correct answers. The structured questionnaire had 4 alternative responses. The correct response was given a score of one and incorrect was scored as zero. The total knowledge questionnaire score were 45. An arbitrary classification of knowledge score was done, which was classified as

Adequate knowledge - 75% to 100%

Moderately adequate - - 51% to 74%

Inadequate knowledge - 50% and below

Section III: Procedure Checklist :

Procedure check list was used to assess the skill of sample on basic cardiac life support. It consisted of 35 items divided into three parts. The areas are as follows.

Area I - Assessment phase – 7 items

Area II - Performance phase – 23 items

Area III – Reassessment phase – 5 items

There were 35 items in the observation check list. A score of one was given to those who have performed the steps correctly and zero for those who performed incorrectly.

VALIDITY OF THE INSTRUMENT:

Validity refers to the degree to which an instrument measures what it is intended to measured **(Burns N, 2002)** Content validity is the extent to which the method of measurement includes all the major elements relevant to the concept being measured **(Kothari CR, 2004).**

Validity of the tool was assessed by obtaining opinion from 5 experts. In this topic that includes 4 nursing experts and I medical expert.

The experts suggested by simplifying the language to reorganize some items, to include multiple right answers to avoid options like frequent all of the above and to include proportionately more number of questions in anatomy and physiology aspects. Appropriate modifications and corrections were made and tool was finalized.

RELIABILITY OF THE TOOL:

The reliability of the instrument was estimated by Pearson coefficient correlation. The reliability value of the instrument was 0.9 and it was found to be reliable.

Ethical Consideration

Prior to the data collection written permission was obtained from the Principal,Seventh day adventist School – Erode.

Data Collection Procedure:

Period of data Collection:

During this period, the investigator collects both pre- test, teaching with video assisted teaching programme and then posttest.

Stages of Data Collection:

The data was collected in following three steps:

a) Pre – Test

Pretest was conducted among school teachers who are working in Seventh day Adventist Matriculation School, by giving questionnaire to assess the knowledge on CPR, before implementation of VAT.

b) Implementation of VAT

Immediately after pretest, VAT was given to the same teachers regarding CPR.

c) Posttest

Evaluation was done by conducting posttest after 7 days of implementation of VAT. Post test was conducted by using the questionnaire used for the pretest.

PILOT STUDY:

"A pilot study is a small preliminary investigation of the same general character as the major study. It is designed to acquaint the researcher with the problems to be corrected in preparation for the larger research project and try out the problems for collecting the data." Pilot study was conducted to ensure validity and reliability of the tool and feasibility for giving intervention.

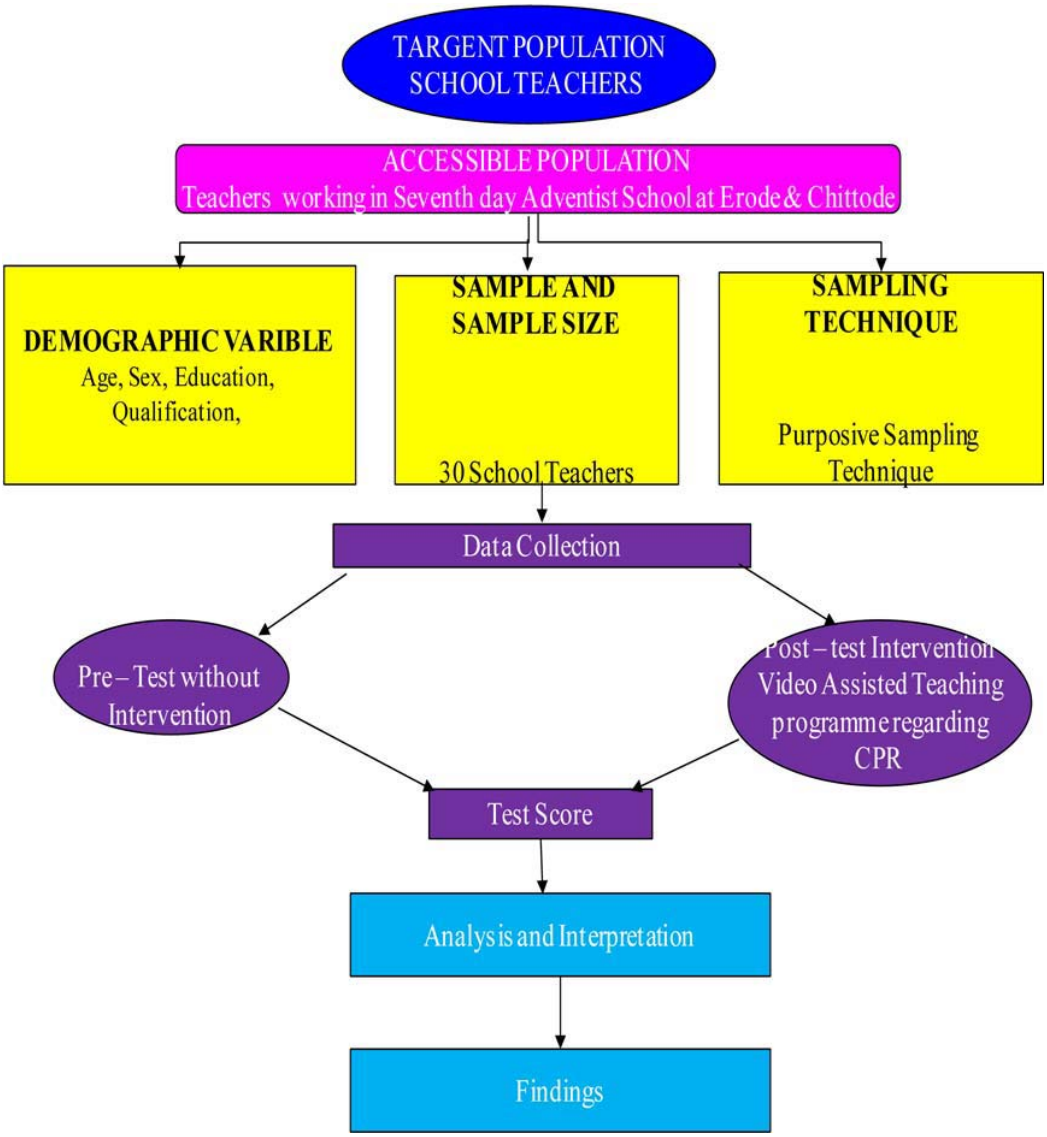
The pilot study was conducted in Seventh Day Adventist Matriculation School Chithode, Erode. After getting formal permission from the principal. 5 school teachers were selected by purposive sampling technique. A structured pre test, post test questionnaire was used to collect data from the school teachers during pilot study. The study was feasible, practicable and acceptable.

PLAN FOR STATISTICAL ANALYSIS:

Data was collected and checked with teacher's knowledge and practice in selected schools at Erode. The collected data was summarized and tabulated by utilizing descriptive statistics which includes mean percentage, standard deviation

and inferential statistics include student 't' test, Chi – square test and Pearson coefficient correlation.

FIG 2: SCHEMATIC PRESENTATION RESEARCH



CHAPTER – IV

DATA ANALYSIS AND NTERPRETATION

CHAPTER IV

ANALYSIS AND INTERPRETATION

"A clay pot sitting in the sun will
always be a clay pot, It has to go through
the white heat of the furnace to become porcelain"
- Mildred Struden

Polit and Hungler, (2004) defines as categorizing, ordering, manipulating and summarizing the data to reduce it into intelligible and interpretable form, so that research problem can be studied and tested by including relationship between the variables.

This chapter deals with analysis and interpretation of the data elicited form sample of 30 school teachers on knowledge and practice regarding basic cardiac life support. The data which are necessary to provide the adequacy of the study are collected through the semi structured interview schedule and analyzed using relevant descriptive and inferential statistics. The substantive summary of the findings were arranged in collection with the objectives of the study.

Objectives of the Study:

1. To assess the knowledge regarding basic cardiac life support among school teachers.

2. To evaluate the effectiveness of Video assisted teaching programme on the knowledge on basis cardiac life support among the school teachers.

3. To find out the association between the level of knowledge with the selected demographic variables.

ORGANIZATION FINDINGS:

Section I:

Description of sample characteristics.

Section II:

Assessment of pre – test and post – test knowledge of school teachers regarding basic cardiac life support.

Section III:

Association between the knowledge with the selected demographic variables.

SECTION I

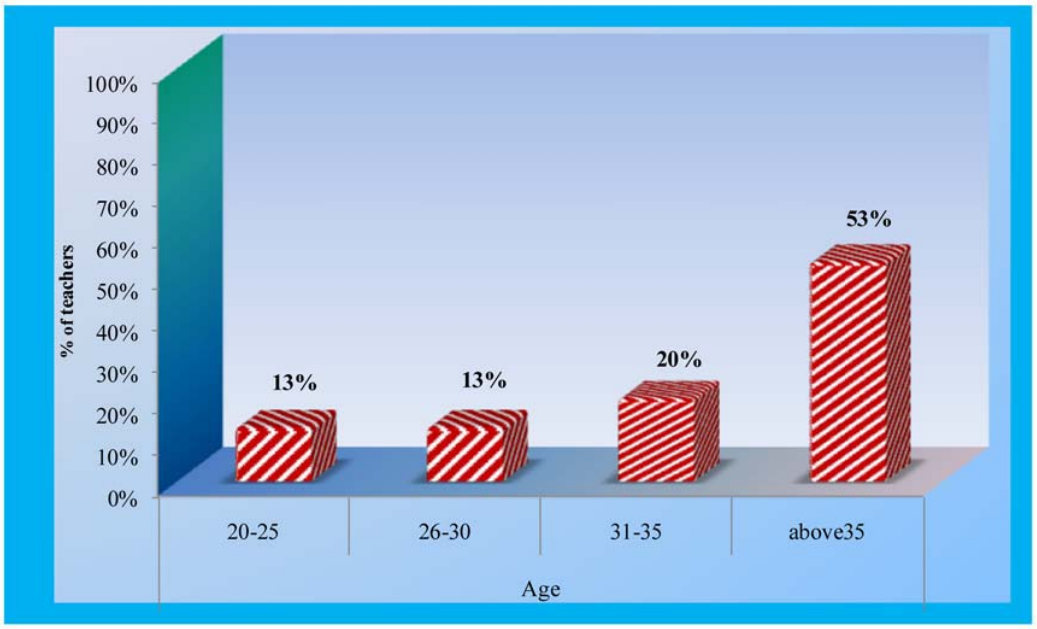
DESCRIPTION OF SAMPLE CHARACTERISTICS

Table: 1 Frequency and percentage distribution of school teachers according to the demographic variables:

Demographic Variables		Frequency	Percentage
Age	20-25	4	13%
	26-30	4	13%
	31-35	6	20%
	above35	16	53%
Sex	Male	3	10%
	Female	27	90%
Educational Qualification	D.T.Ed.,	12	40%
	B.Ed.,	15	50%
	M.Ed.,	3	10%
Years of Experience	Below 1 year	5	17%
	2-6 years	11	37%
	7-11 years	4	13%
	Above 11 years	10	33%

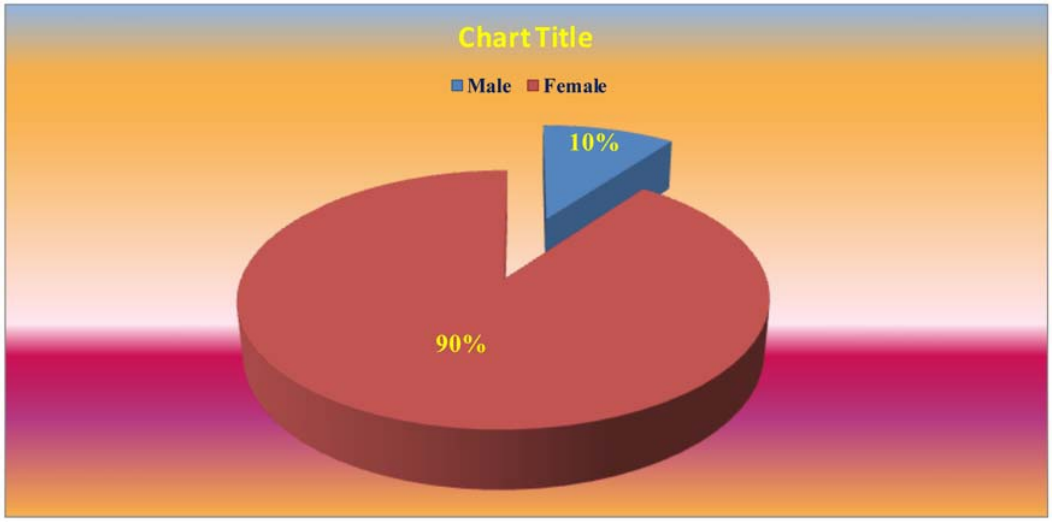
Table 1 shows the distribution of demographic variables according to their age, sex, educational qualification and working experience.

Fig 3: Bar Diagram showing the distribution of school teachers according to their age



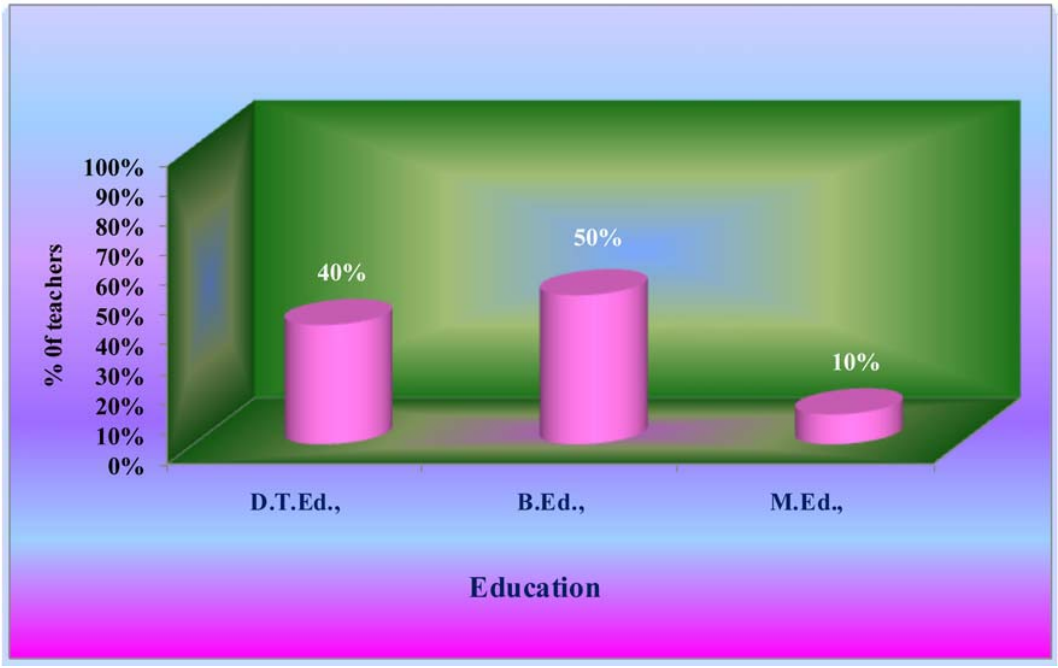
The above figure shows distribution of the teachers according to their age. That 13% of samples are in the age group of 20 – 25 years, 13% are in the age group of 26 – 30 years, 20% are in the age group of 31 – 35 years and 53% are in age group of above 35. It shows that highest percentage was in the group of above 35 years.

Fig. 4: Pie diagram showing the distribution of school teachers according to their sex



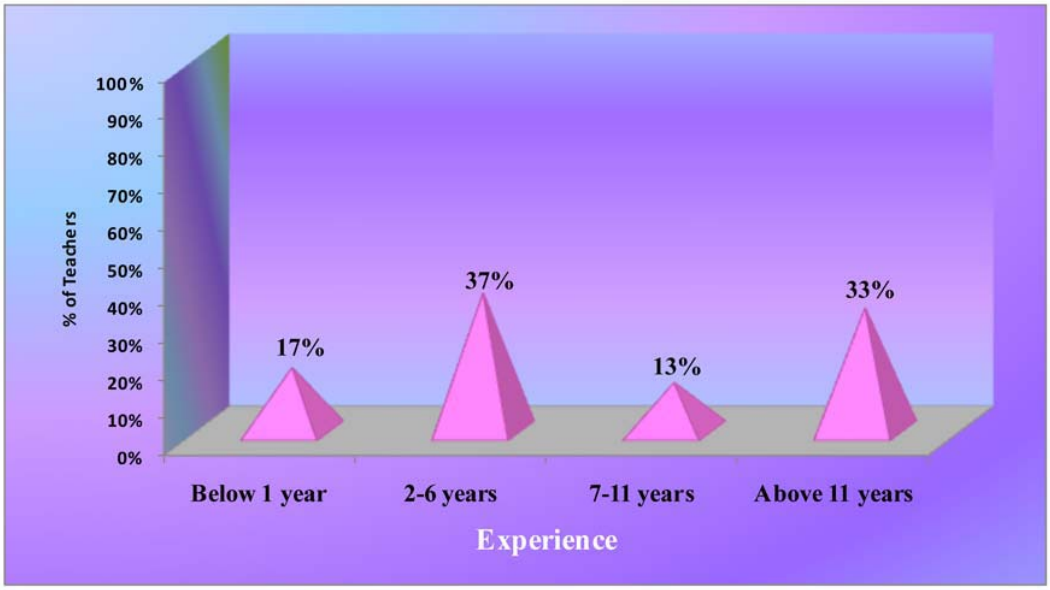
The above figure shows distribution of the school teachers according to their sex. 10% of sample are male and 90% are female.

Fig. 5: Cylindrical diagram showing the distribution of school teachers according to their educational qualification



The above figures shows distribution of the school teachers according to their educational qualification. That 40% of samples are D.T.Ed 50% of samples are B.Ed., and 10% of samples are M.Ed., It shows that highest percentage was B.Ed.,

Fig. 6: Pyramidal diagram showing the distribution of school teachers according of their experience



The above figure shows distribution of the school teachers according to their working experience. That 17% of samples are below 1 year, 37% of samples are 2-6 years, 13% of samples are 7-11 years and 33% of samples are above 11 years. It shows that highest percentage was 2-6 years.

SECTION II

Assessment of pre-test and post test knowledge and practice of school teachers regarding basic cardiac life support.

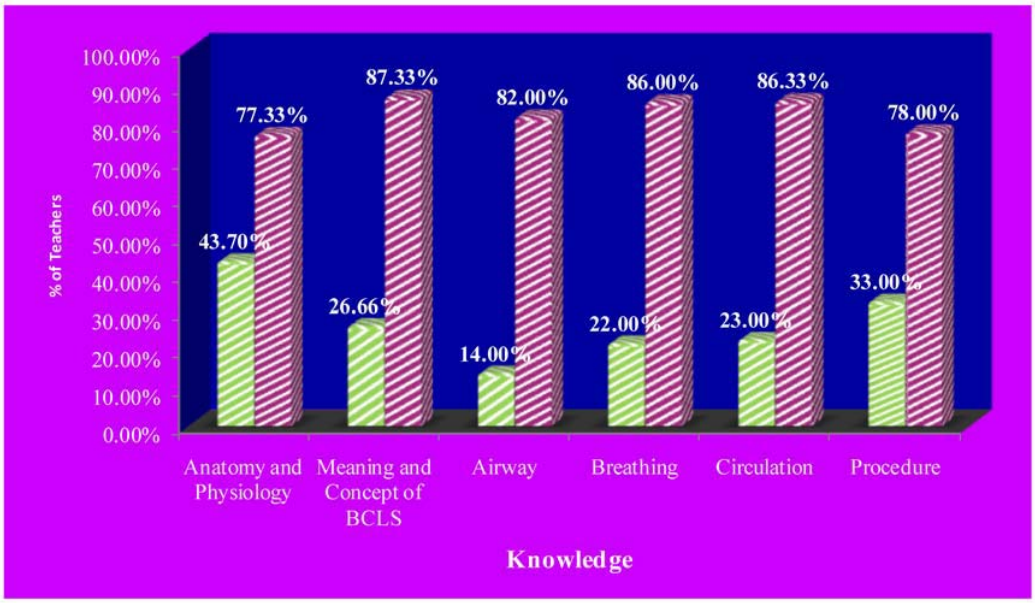
An attempt has been made to study the knowledge and practice of basic cardiac life support among school teachers. After converting the qualitative information of the knowledge and practice into a quantitative one the average score was obtained from the school teachers on various dimensions like anatomy and physiology of cardiovascular and respiratory system, meaning and concept of basic cardiac life support, knowledge regarding airway, breathing, circulation and procedure.

PART A: LEVEL OF KNOWLEDGE:

Table 2: Knowledge score on basic cardiac life support among school teachers

Area	Pre-test				Post test				Effect	't' value	'P' Value
	Max	Mean	SD	Mean %	Max	Mean	SD	Mean %			
Anatomy and physiology	10	4.36	1.24	43.70	10	7.73	1.22	77.33	33.63	15.5	P < 0.05 Significant
Meaning and concept of BCLS	5	1.33	0.60	26.66	5	4..36	0.71	87.33	60.67	23.07	P < 0.05 Significant
Knowledge regarding airway	5	0.70	0.70	14	5	4.10	0.75	82	68%	23.78	P < 0.05 Significant
Knowledge regarding breathing	5	1.13	0.68	22	5	4.30	0.70	86	64	24.31	P < 0.05 Significant
Knowledge regarding circulation	10	2.30	0.83	28	10	8.63	1.11	86.33	63.33	10.00	P < 0.05 Significant
Knowledge regarding Procedure	10	3.33	1.26	33	10	7.80	1.47	78	45	16.55	P < 0.05 Significant

Fig. 7: Bar Chart showing the each domain pre – test and post – test percentage of knowledge score among school teachers



The knowledge on anatomy and physiology, the pre – test mean score was 4.36 and standard deviation was 1.24 and in the post – test mean score was 7.73 and standard deviation was 1.22 with the effectiveness 33.63 and paired value of 15.5 and it is statistically significant.

The pre – test mean score of the knowledge on meaning and concept of basic cardiac life support was 1.33 and standard deviation was 0.60 and in the post – test mean score was 4.36 standard deviation was 0.71 with the effectiveness 23.07 and paired value of 23.78 and it is statistically significant.

The knowledge on airway among school teachers the pre – test mean score was 0.70 and standard deviation 0.70 and in the post – test mean score was 4.10 and

standard deviation was 0.75 with the effectiveness of 68 and paired value of 23.78 and it is statistically significant.

The pre – test mean score of the knowledge on breathing was 0.13 and standard deviation was 0.68 and in the post – test mean score was 4.30 and standard deviation was 0.70 with the effectiveness of 64 and paired value of 24.31 and it is statistically significant.

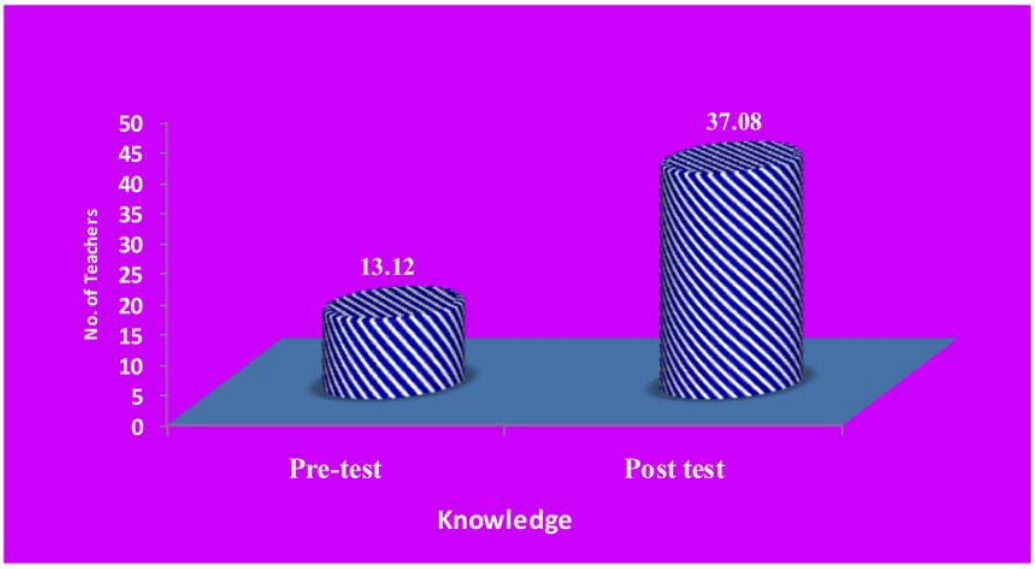
The knowledge on circulation the pre – test mean score was 2.30 and standard deviation 0.83 and in the post – test mean score was 8.61 and standard deviation was 1.11 with the effectiveness of 53.33 and paired value of t = 10.00 and it is statistically significant.

The knowledge on procedure among school teachers, the pre – test mean score was 3.33 and standard deviation was 1.26 and in the post – test mean score was 7.80 standard deviation was 1.47 with the effectiveness of 45 and paired value of t = 16.55 and it is statistically significant.

Table : 3 Overall mean knowledge score

Component	Observation	Mean	Mean Difference	SD	't' Value	'P' Value
Knowledge score total	Pre – test	13.12	23.96	11.98	29.42	Significant P < 0.05
	Post – test	37.08				

Fig 8: Cylindrical Diagram showing the overall mean knowledge score pre – test and post – test among school teachers

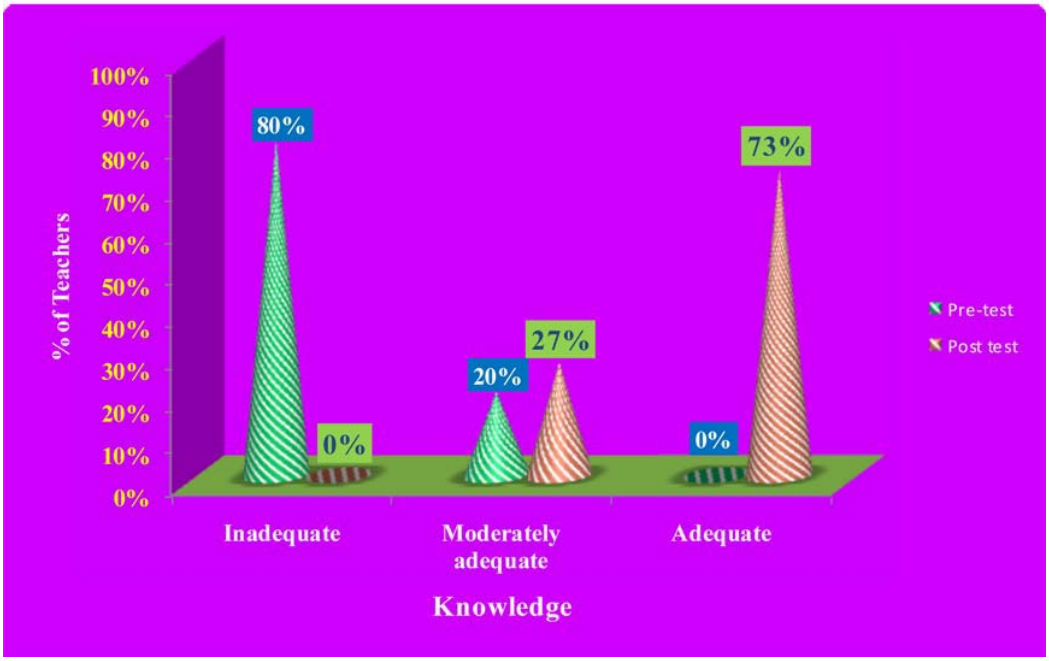


Overall pre – test knowledge mean score was 13.12 and post – test mean score was 37.08 and the mean difference between pre – test and post – test was 23.96 and standard deviation was 11.98. It is noted that 't' value is 29.42 which shows highly significant difference between pre – test knowledge and post test knowledge.

Table 4: Association between pre – test and post – test level of knowledge regarding basic cardiac life support among school teachers:

Level of knowledge	Pre – test		Post – test	
	F	%	F	%
Inadequate	24	80.00	0	0
Moderately adequate	6	20.00	8	27
Adequate	0	0	22	73

Fig. 9: Conical diagram showing the level of pre – test knowledge among School teachers



It is inferred that in the pre – test 80% school teachers have inadequate knowledge and 20% have moderately adequate knowledge and in the post – test 27% have moderately adequate knowledge and 73% have adequate knowledge regarding basic cardiac life support.

SECTION 111

Table 5 : Association between the pre – test knowledge score with their demographic variables:

n = 30

Demographic variables		Knowledge				Chi – Square	Significance
		Inadequate		Moderately adequate			
		F	%	F	%		
Age	20-25	4	100%	0	0	$x^2 = 3.652$ df = 3	P > 0.05 Not Significant
	26-30	3	75%	1	25.00		
	31-35	5	83.33%	1	16.67		
	Above 35	12	75.00	4	25.005		
Sex	Male	2	66.67	1	33.33	$x^2 = 0.439$ df = 1	P > 0.05 Not Significant
	Female	22	81.48	5	18.52		
Educational Qualification	D.T.Ed.,	10	83.33	2	16.67	$x^2 = 0.430$ df = 2	P > 0.05 Not Significant
	B.Ed.,	12	80.00	3	20.00		
	M,Ed.,	2	66.67	1	33.33		
Years of Experience	1 year	5	100	0	0	$x^2 = 1.960$ df = 2	P > 0.05 Not Significant
	2-6 year	9	81.18	2	18.82		
	7-11 year	3	75.00	1	25.00		
	Above 11 years	7	70.00	3	30.00		

This table interprets that there is no significant association between level of knowledge and selected demographic variables.

CHAPTER – V

DISCUSSION AND SUMMARY

CHAPTER – V

DISCUSSION, NURSING IMPLICATION, RECOMMENDATION AND CONCLUSION

"Do not go where the path may lead
go instead, where there is no path and leave a trail ".

This chapter discusses the main findings of the research study and implication to nursing and recommendation for further studies.

STATEMENT OF THE PROBLEM

"A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAM ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS AT ERODE DISTRICT"

OBJECTIVES:

1. To assess the knowledge regarding basic cardiac life support among school teachers.

2. To evaluate the effectiveness of video assisted teaching programme on the knowledge on basic cardiac life support among the school teachers.

3. To find out the association between the level of knowledge with the selected demographic variables.

1) **To assess the knowledge regarding basic cardiac life support among school teachers**

Based on the above objective of the study to assess the knowledge regarding basic cardiac life support in relation to the finding of the pre-test study there is significant increase in post-test knowledge score after the administration of VAT.

The level of knowledge in post-test mean score 37.08 is increased than the pre-test mean score after administration of video assisted teaching programme.

2) **To evaluate the effectiveness of video assisted teaching programme on the knowledge of basic cardiac life support**

Findings of the pre-test and post-test knowledge of school teachers is to know the effectiveness of video assisted teaching programme on basic cardiac life support.

The level of knowledge of school teacher in post-test mean score was 37.08 and the pre-test mean score was 13.12 and the mean difference between post-test and pre-test knowledge was 23.96 which shows that there is a effectiveness after administration video assisted teaching programme.

Goodwin AP 1992, Cambridge, conducted the study to 50 junior hospital doctors were assessed cardiopulmonary resuscitation skills. Theoretical knowledge is measured by multiple choice questionnaire and practical ability with the Laerdal skillmeter Resusci Anne. Only 40% of the study group passed both test., Those doctors who had previously received regular CPR training performed better in the practical test ($p<0.05$) than those who had not. This, this study supports result of current study.

Lynch DM, 2002, Australia, conducted the study to determine community application of cardiopulmonary resuscitation (CPR) skills in an emergency, and, thus asses the value of training programmes in raising community competence. Practical and theoretical assessment course were significantly better on trained versus untrained participants. The number of times a person was trained in CPR was more effective for retention and competence than time since last trained. Thus, this study supports result of current study.

3) **To find out the association between knowledge with the selected demographic variables.**

Findings of the study revealed that there is no significant association between knowledge of school teachers with demographic variables.

RESULTS:

The following were the results of this study.

Among the samples taken, 53% of the samples belong to the age group of above 36 years which is the greater part. Also 90% were female and 50% had completed B.Ed., 37% of the samples were of 2-5 years of experience.

In the pre-test, 80% of the school teachers were inadequate knowledge and 20% were moderately adequate knowledge and in the post-test 27% were moderately adequate knowledge and 73% had adequate knowledge regarding basic cardiac life support.

The difference between the overall pre-test and post-test knowledge mean difference score was 23.96% which reveal the effectiveness of video assisted teaching program on basic cardiac life support. Hence there was a significance increase in knowledge of the school teacher regarding basic cardiac life support after their exposure to the structured teaching programme on basic cardiac life support

Further, the paired t' test was used to find the significant difference between the overall pre-test and post-test knowledge score. The't' value <29.42> was significant at $p<0.05$. Hence there was significant difference between the overall pre-test and post-test knowledge score, and that difference was due to the exposure of the school teachers to video assisted teaching programme.

There was no significant association between the level of knowledge with demographic variables.

IMPLICATION OF THE STUDY :

The finding of the study of implication are related to nursing administration, nursing practice, nursing education, nursing research and community regarding increase in knowledge related to basic cardiac life support

NURSING ADMINISTRATION:

Nursing administration should motivate the nursing personnel to participate in periodic assessment of knowledge regarding basic cardiac life support. Periodic mass health education programme have to be arranged in all colleges, school and the community.

Nursing administrators should encourage involvement of all people in saving lives in emergency according to the primary health care concept of "people's health in people's hand"

NURSING EDUCATION:

Nursing education should equip the students with adequate basic cardiac life support training. So that, they will be able to train the public. Health care institutions should have resuscitation committee. Sufficient experience to improve the skills in performing basic cardiac life support should be included in nursing education programme.

NURSING PRACTICE:

Nursing practice should focus on providing health education regarding importance of basic cardiac life support among clinical nurse and community health nurse to motivate the general public to participate in the education regarding basic cardiac life support. The booklet can be used as a guide for community health nurse in order to bring awareness.

NURSING RESEARCH:

Most of the research efforts in basic cardiac life support have been from the western countries. So there is a need to conduct further studies in developing countries, as the incidence of out oh hospital cardiac arrest and death is more in such countries. The further implies that teaching basic cardiac life support regardless of the need, it will be helpful in one other circumstance were thousands of lives can be saved and identifies basic cardiac life support equally important like first aid.

RECOMMENDATION:

- A similar study can be replicated in a large sample, there by finding can be generalized.
- The same study can be done with control group.
- A similar study can be conducted with post-test after 1 month, 6 month, one year interval to evaluate the retention of knowledge and skill.
- A similar study can be conducted for community members.

Conclusion

The present study assessed the knowledge regarding basic cardiac life support and found the school teachers had inadequate knowledge . After video assisted teaching programme on basic cardiac life support there is significant improvement on school teachers' knowledge . The study concluded that the video assisted teaching programme was effective in improving knowledge regarding basic cardiac life support.

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Prof. M. Latha, MSc.(N), MBA
Principal.

Ref.No.ACON/0116S15. **16.12.2015**

To
The Principal,
Seventh Day Adventist Matriculation School,
Near Anur Theatre,
Erode – 638 001.

Respected Sir,

Sub : Letter seeking permission for conducting the study – Regarding.

***

Mrs. Durga Devi., is a **II Year M.Sc.(Nursing)** student of our college is planning to conduct a study to **"Assess the effectiveness of structured teaching programme on knowledge regarding cardiopulmonary resuscitation among School teachers in selected schools Erode District ".**

This study is undertaken as part of her research project to be submitted to the Tamil Nadu Dr. MGR Medical University at Chennai, in partial fulfillment of university requirement for the award of M.Sc.(Nursing) Degree. I request you to kindly grant permission to conduct the study at your institution. I humbly request you to do the needful towards the same.

Thanking you,

Yours sincerely,

PRINCIPAL
Seventh - Day Adventist
Matriculation School.
PATTAKKARAR THOTTAM,
ERODE - 638 001

PRINCIPAL
ANBU COLLEGE OF NURSING
MGR NAGAR PALLIPALAYAM ROAD
KOMARAPALAYAM 638 183
NAMAKKAL DISTRICT

ANNEXURE – II

Letter seeking expert's opinion and suggestion for the content Validity of the tool used for the study.

From,

Reg. No : 301412901
IInd Year M.Sc Nursing, Anbu College of Nursing,
M G R Nagar, Komarapalayam.

To

_____
_____
_____

Forwarded through

Mrs. Latha,
Prinicipal, Anbu College of nursing,
M G R Nagar, Komarapalayam.

Sub : Expert opinion for content validation of research tool.

Respected Sir / Madam,

I Reg. No. 301412901 a post graduate student of Anbu College of nursing, anticipate Your valuable self; if you would accept to validate my research tool on the topic **"A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS IN A SELECTED SCHOOL AT ERODE DISTRICT"**

It would be highly appreciable if you would kindly affirm your acceptance to endorse your Valuable suggestions on this topic. I had attached the details of the study along with the research tool.

Thanking you

Date : Yours faithfully,

Place : Komarapalayam. Reg No : 301412901

ANNEXURE – III

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of Reg No. 301412901 IInd year M.Sc Nursing student who is undertaking, **"A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE OF BASIC CARDIAC LIFE SUPPORT AMONG SCHOOL TEACHERS IN A SELECTED SCHOOL AT ERODE DISTRICT"**

Place : Signature and seal of the Expert.

Date : Name and Designation.

ANNEXURE – IV

LIST OF EXPERTS WHO VALIDATED THE TOOL

1. Dr. Amit.S, Talbot, M.B.B.S.,

   Assistant Surgeon,

   Lotus Hospital, Erode
2. Mrs. S.Lakshmi Prabha M.Sc (N),

   Professor & HOD

   Dept. of Medical Surgical Nursing

   VMACON

   Salem.
3. Mrs. S.Lavanya M.Sc (N)., Ph.D.,

   HOD, Medical Surgical Nursing

   Nandha College of Nursing

   Erode – 52.
4. Mrs. R.Gowri M.Sc (N).,

   Associate Professor

   Anbu College of Nursing.
5. Mrs. G.Juliet Nirmala Mary M.Sc (N).,

   Asst. Professor

   Anbu College of Nursing

SECTION I

DEMOGRAPHIC VARIABLES

1. Age in years

a. 20 – 25 years

b. 26 – 30 years

c. 31 – 35 years

d. Above 35 years

2. Gender

a. Male

b. Female

3. Educational qualification

a. D.T.Ed.,

b. B.Ed.,

c. M.Ed.,

4. Years of experience

a. Up to 1 year

b. 2 – 6 years

c. 7 – 11 years

d. Above 11 years

5. Previous knowledge about CPCR

a. Yes

b. No

6. If yes, source of information through

a. Media

b. Books

c. Relatives

d. Friends

SECTION II

KNOWLEDGE QUESTIONNARIE

PART – I: KNOWLEDGE REGARDING ANATOMY AND PHYSIOLOGY OF RESPIRATORY AND CARDIOVASCULAR SYSTEM

1. Which organ plays an important role in circulatory system? [ ]

   a. Kidney
   b. Liver
   c. Heart
   d. Stomach

2. Shape of the heart [ ]

   a. Closed fist
   b. Round shape
   c. Cone shape
   d. Oval shape

3. Heart lies in _____ cavity [ ]

   a. Abdominal
   b. Thoracic
   c. Cranial
   d. Peritoneal

4. The heart consists of [ ]

   a. 2 chambers
   b. 3 chambers
   c. 4 chambers
   d. 5 chambers

5. The arteries carry [ ]

   a. Oxygenated blood
   b. Deoxygenated blood
   c. Nutrients
   d. Oxygen

6. The heart is covered by [ ]

a) 2 layers

b) 3 layers

c) 4 layers

d) 5 layers

7. The Normal Blood pressure is [ ]

a) 120/80mm Hg

b) 90/60mm Hg

c) 150/90mm Hg

d) 180/100mm Hg

8. The sounds of a normal hear beat are known as [ ]

a) “lubb” and “dupp”

b) “lupp” and “lupp”

c) “dupp” and “lupp”

d) “dupp” and “dupp”

9. The pacemaker of the heart is [ ]

a) SA Node

b) AV Node

c) Ventricles

d) Arteries

10. The normal heart rate is (beats / mt) [ ]

a. 40 - 60

b. 100 – 120

c. 60 – 100

d. 150

PART – 2: KNOWLEDGE REGARDING CARDIO PULMONARY CEREBRO RESUSCITATION

11. What does “CPCR” stand for? [ ]

a. Call, Plan, Co-ordinate, Respond
b. Coronary Pathogen Carotid Revival
c. Cardio-Pulmonary Cerebro Resuscitation
d. Capillary Process Compression Review

12. The “ABC” of CPCR is [ ]

a. Air, Burns, and Cuts
b. Airway, Breathing, and Circulation
c. Artery, Blood, and Capillaries
d. Angina, Bronchial Asthma and Coma

13. The purpose of Basic life support is to [ ]

a. Maintain ventilation and circulation
b. Maintain circulation only
c. Maintain ventilation only
d. Rehabilitation

14. The indication for basic life support is [ ]

a. Renal failure
b. Fever
c. Cardiac arrest
d. Fracture

15. What is the meaning of the word resuscitation? [ ]

a. Restore
b. Revive

c. Re-establish

d. Renew

PART – 3: KNOWLEDGE REGARDING AIRWAY

16. The first step in assessing a patient's airway is to [ ]

a. Place the patient on his or her back

b. Check for responsiveness

c. Look, listen and feel for sings of breathing

d. Use the head tilt chin lift technique

17. Head tilt and chin lift maneuver is used to [ ]

a. Increase blood pressure

b. Decrease pain

c. Open the airway

d. To initiate sleep

18. Which is the safe maneuver for a victim with neck injury? [ ]

a. Jaw thrust maneuver

b. Head tilt and chin lift maneuver

c. Head tilt maneuver

d. Chin lift maneuver

19. Among the following, which one obstructs the airway most commonly [ ]

a. Food

b. Dentures

c. Vomit

d. Back fall of tongue

20. How jaw thrust method is performed? [ ]

a. Supporting the jaw with hands

b. Place both the hands behind the angle of the jaw and lift the jaw forward

c. Place both the hands behind the angle of the jaw and lift the jaw backward

d. place both the hands behind the angle of the jaw and lift the jaw lateral

PART – 4: KNOWLEDGE REGARDING BREATHING

21. The signs of normal breathing are all except [ ]

a. Chest movement
b. Sound from chest
c. Feel of air on your cheek
d. Sound from abdomen

22. What should be done if the victim regains normal breathing [ ]

a. Turn him to the supine position
b. Turn him into the prone position
c. Turn him into the recovery position
d. Elevate the head end of patient

23. What type of breath should be given when performing rescue breathing? [ ]

a. Deep breath
b. Normal breath
c. Shallow breath
d. Fast breath

24. To provide a better seal for mouth to mouth breathing the rescuer should [ ]

a. Gently pinch the nose
b. Gently pinch the mouth
c. Cover the nose of the victim
d. Placing the victim in a sitting position

25. Recovery position means [ ]

a. Placing the victim on his or her side
b. make victim stands up
c. raising the feet up above the heart
d. placing the victim in a sitting position

PART – 5: KNOWLEDGE REGARDING CIRCULATION

26. When administering CPCR, what is breath-to-compression ratio? [ ]

a. 2 breaths for every 5 compression
b. 1 breath for every 15 compression
c. 2 breaths for every 30 compression
d. 1 breath for every 30 compression

27. How many chest compressions should be performed in a minute? [ ]

a. 20 compression / minute
b. 40 compression / minute
c. 60 compression / minute
d. 100 compression / minute

28. Circulation can be assessed by palpating [ ]

a. Jugular vein
b. Heart
c. Carotid artery
d. Popliteal artery

29. Landmark of chest compression is [ ]

a. Center of the chest, one finger width below the nipples line
b. One hand width above where the ribs meet
c. 4 inches below the sternum
d. Lower half of the sternum

30. How to keep the fingers over chest while giving CPCR? [ ]

a. Diverging the fingers

b. Making a fist

c. Interlock fingers

d. None of the above

31. Depth of pressure applied on the sternum for adults during CPCR? [ ]

a. 1-2 cm
b. 2-4 cm
c. 5-6 cm
d. 6-8 cm

32. Depth of pressure applied on the sternum for children during CPCR? [ ]

a. 1-2 cm
b. 2-4 cm
c. 4-5 cm
d. 6-8 cm

33. If there is more than one rescuer present, the duration of change over of rescuer is [ ]

a. Every 1-2 minutes
b. Every 2-4 minutes
c. Every 6-8 minutes
d. Every 30 minutes

34. The complication that can result due to chest compression [ ]

a. Head injury
b. Leg injury
c. Rib and sternum fracture
d. Damage the kidney

35. During CPCR the position of elbow and back of the rescuer should be [ ]

a. Flexed elbow and straight back
b. Flexed back and flexed elbow
c. Straight back and straight elbow
d. Flexed back and straight elbow

PART – 6: KNOWLEDGE REGARDING CPCR PROCEDURE

36. Check the victim for responsiveness by [ ]

a. Pinch the earlobe
b. Shaking him and shouting ‘Are You Ok’?
c. Pouring cold water on his face
d. Pinch the hands

37. If the victim remains unresponsive you should [ ]

a. Dial ‘108’ before starting CPCR
b. Start CPCR before dial ‘108’
c. Wait to see if the victim consciousness
d. Perform 5 back slaps

38. Position of the victim while doing CPCR [ ]

a. In a chair
b. Flat on a sofa
c. Flat on a floor
d. Flat on a soft mattress

39. Position of rescuer during CPCR [ ]

a. Standing position
b. Sitting position
c. Kneel down position
d. All the above

40. Feel the carotid pulse for [ ]

a. 3 seconds
b. 5 seconds

c. 10 seconds

d. 15 seconds

41. Recheck the circulation every [ ]

a. 1 minute
b. 2 minutes
c. 4 minutes
d. 6 minutes

42. While giving CPCR, continue resuscitation until [ ]

a. Qualified help arrives and takes over
b. The victim starts breathing normally
c. You become exhausted
d. All the above

43. When the victim is placed in recovery position it allows [ ]

a. The flow of saliva and prevents choking
b. The victim to rest
c. To increase the heart rate
d. To prevent vomiting

44. While giving rescue breaths for neonates the rescuer should [ ]

a. Cover the baby's mouth only
b. Pinch the nose of the baby
c. Cover both mouth and nose
d. Release the nostril

45. Do not shake or move the victim if he/she has [ ]

a. Unconsciousness
b. Coma
c. Spinal cord injury
d. Response

SECTION III

PROCEDURE CHECKLIST ON BASIC CARDIAC LIFE SUPPORT

S.No.	Steps of the procedure	Done	Not Done	Remarks
I	**ASSESSMENT:**			
	DETERMINE UNRESPONSIVENESS			
1	Tap or gently shake shoulder			
2	Shout "ARE YOU OK"			
	AIRWAY			
3	Check airway for secretions / foreign body/Back fall of tongue			
	BREATHING			
4	Look for chest rise and fall			
5	Listen for air escape during exhalation			
6	Feel for flow of air			
	CIRCULATION			
7	Check carotid pulse			
II	**PERFORMANCE:**			
	POSITION OF THE VICTIM			
8	Flat on a floor			
	AIRWAY			
9	Open the airway Head tilt chin lift maneuver pinch the victim's nose.			
10	Take a normal breath			
	Establish tight seal over victim's mouth.			
11	Provide two slow breaths (two sec/breath)			
	Observe the chest rise and fall			
12	Allow for complete exhalation between breaths if unable to give two effective breaths			
13	Reposition the victim and try to open airway.			
14	Reattempt to ventilate and place the victim in recovery position.			

15 16 17	Positions (simplify recovery position) Reposition the victim and try to open airway. Reattempt to ventilate and place the victim in recovery position.			
18 19	**CIRCULATION** Assess the signs of circulation after delivery of two effective breaths. Check carotid pulse			
20 21 22	**If there are signs of circulation and no spontaneous respiration.** Continue to protect the airway Continue rescue breathing (1 breath /sec) Do not perform chest compression			
23 24	**If there are no signs of circulation begin chest compression** Get into position for compression at victims side (kneel down position) Locate the site of compression lower of the sternum			
25 26	**Position hands, arms, and shoulders** Elbows are locked and arms are straight Rescuers shoulders positioned directly over hands.			
27 28 29 30	**Begin compressions a rate of 100 -120/min** Compressions should depress victim's sternum approximately 5-6 cm. Maintain correct position at all times. Reassess the ventilation after 30 chest Compression. Compression ventilation ratio is 30:2			

III 31	**<u>REASSESSMENT</u>** **After four complete compressions ventilation cycles reassess victim.** Assess for signs of breathing and circulation			

	within 10 seconds.			
32	**If signs of circulation are absent** Continue chest compression at a rate of 100 -120/min.			
33 34 35	**If signs of circulation are present** Place victim in recovery position Monitor breathing and circulation If breathing is absent, provide rescue breathing			

VIDEO ASSISTED TEACHING ON KNOWLEDGE REGARDING CARDIO PULMONAY RESUSCITATION

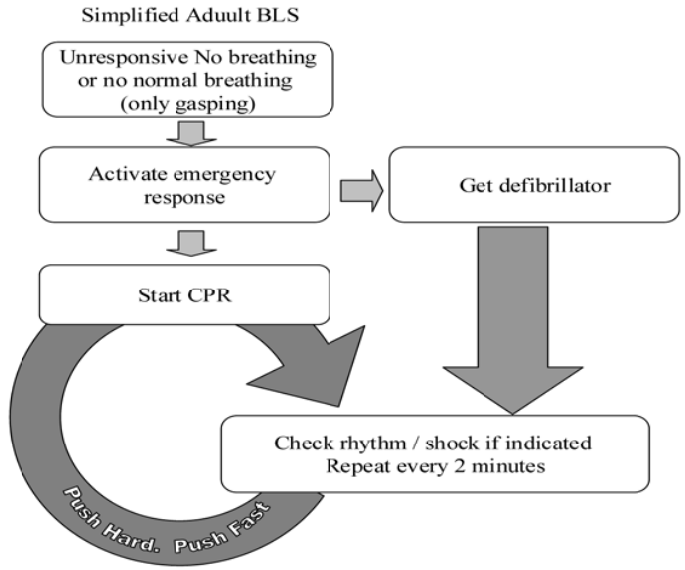
Name of Presenter	:	**MS. DURGA DEVI Reg. No. 301412901**
Topic	:	Basic cardiac life support
	:	Teachers working seventh day Adventist School.
Duration	:	45 Minutes
Medium of Instruction	:	Power point presentation
General Objective	:	The teachers will gain knowledge, attitude and skill regarding CPCR.

OBJECTIVES	CONTENTS	TEACHING LEARNING ACTIVITY WITH AV AIDS
Introduce the topic	**INTRODUCTION:** Basic cardiac Life support includes maintaining airway and supporting breathing and circulation without the help of any equipment. Basic Cardiac Life support (BCLS) is that particular phase of emergency cardiac care that either • Prevents circulatory or respiratory arrest on insufficiency through prompt recognition and intervention • Externally support the circulation and ventilation of a victim of cardiac on respiratory arrest through cardiopulmonary resuscitation. The heart is a muscular organ about the size of a closed fist that functions as the body's circulatory pump. It takes in deoxygenated blood through the veins and delivers it to the lungs for oxygenation before pumping it into the various arteries (which provide oxygen and nutrients to body tissues by transporting the blood throughout the body). The heart is located in the thoracic cavity medial to the lungs and posterior to the sternum.	Introducing the topic with help of power point presentation
	ANATOMY OF HEART: **Pericardium** The heart sits within a fluid – filled cavity called the pericardial cavity. Pericardium is a type of serous membrane that produces fluid to lubricate the heart and prevent frication between the ever beating heart its surrounding organs. **Structure of the Heart Wall** The heart wall is made of 3 layers : Pericardium, myocardium and endocardium.	

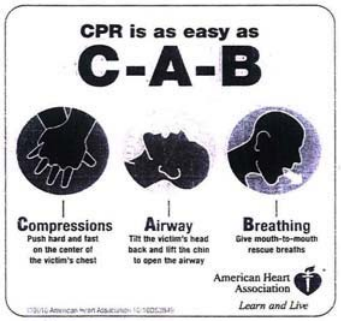
Describe the anatomy and physiology.	➢ Epicardium. The epicardium is the outermost layer of the heart wall. ➢ Myocardium. The myocardium is the muscular middle layer of the heart wall that contains the cardiac muscle tissue. ➢ Endocardium. Endocardium is the simple squamous endothelium layer that lines the inside of the heat lungs. **Chambers of the Heart** The heart contains 4 chambers: the right atrium, left atrium, right ventricle, and left ventricle **Valves of the Heart** The heart functions by pumping blood both to the lungs and the systems of the body. The heart valves can be broken down into two types: ➢ Atrioventricular and ➢ Semilunar valves.	Lecturing about the topic with the help of power point presentation
	Physiology of the Heart Coronary Systole and Diastole At any given time the chambers of the heart may found in one of two states: ➢ Systole. During systole, cardiac muscle tissue is contracting to push blood out of the chamber. ➢ Diastole. During diastole, the cardiac muscle cells relax to allow the – chamber to fill with blood. Blood pressure increases in the major arteries during ventricular systole and decreases during ventricular diastole. This leads to the 2 numbers associated with blood pressure – systolic blood pressure is the higher number and diastolic blood pressure is the lower number. For example, a blood pressure of 120/80 describes the systolic pressure (120) and the diastolic pressure (80).	

	The Cardiac Cycle The cardiac cycle includes all of the events that take place during one heartbeat. **The Electrocardiogram** The electrocardiogram (also known as an EKG or ECG is a non – invasive device that measures and monitors the electrical activity of the heart through the skin. **Heart Sounds** The sounds of a normal hearbeat are know as "lubb" and "dupp" and are caused by blood pushing on the values of the heart.	
Define Cardiac arrest and its Management	**CARDIAC ARREST :** Definition : A **Sudden Cardiac Death** (SCD) attack is when there is an abrupt loss of heart function and can be due to a variety of heart conditions.	Explaining about the cardiac arrest and its management with the help of PowerPoint presentation
	CAUSES: Coronary heart disease is the leading cease of sudden cardiac arrest. Many other cardiac and non – cardiac conditions also increase one's risk. **RISK FACTORS:** Smoking, obesity, Family history, lack of physical exercise. **DIAGNOSTIC STUDIES:** A cardiac arrest is usually diagnosed clinically by the absence of a pulse. In many cases lack of carotid pulse is the gold standard for diagnosing cardiac arrest, but lack of a pulse (particularly in the peripheral pulses) may result from other conditions (e.g. shock), or simply an error on the part of the rescuer. **IMMEDIATE MANAGEMENT:** Sudden cardiac arrest may be treated via attempts at resuscitation. This is usually carried out based upon Basic life support (BLS). Advanced cardiac life support (ACLS), Cardiopulmonary Resuscitation (CPCR).	

Define Basic cardiac life support and CPCR	**BASIC LIFE SUPPORT** Basic life support refers to maintain the airway, support respiration and circulation without the use of equipment. Each year, a number of babies and children will suffer with an accident or illness severe enough to stop their breathing and leads to respiratory arrest. In a small number of these cases, it will even stop their heart beating and leads to cardiac arrest. The best chance of ensuring their survival is to give them emergency treatment known as cardiopulmonary resuscitation (CPCR). CPCR can consist of many different things, but the initial, vital part is Basic Life Support (BLS). Basic life support is a type of medical care used on someone with a life – threatening injury or condition until full medical care can be given. An emergency responder or someone trained in BLS can provide this critical care. The ability to deliver Basic Life Support, and apply basic aspects of first aid, are important community skills that have been shown to save lives. BLS includes maintaining airway and supporting breathing and circulation without the help of any equipment. It comprises of repagination of signs of sudden cardiac arrest, heart, attack, stroke, obstruction of airway by a foreign body.	Describing about BLS and CPCR with the help of power point presentation

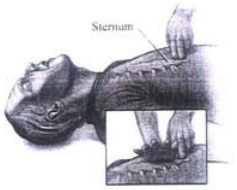
Explain about the and steps performed in CPCR		Explained about CPCR with the help of Power Point presentation.

	CARDIOPULMONARY CEREBRO RESUSCITATION **DEFINITION;** Cardiopulmonary cerebro resuscitation is a procedure to support and maintain breathing and circulation for a person who has stopped breathing (Respiratory arrest) and for whose heart has stopped (Cardiac arrest) **OBJECTIVES:** To provide oxygen to the brain, heart, and other vital organs until appropriate definitive medical treatment. **PURPOSE:** • Restore cardiopulmonary function • Restore and maintain breathing and circulation • Prevent irreversible brain damage from anoxia **INDICATION:** • Respiratory arrest resulting from drowning , stroke, foreign body, airway obstruction, suffocation ,myocardial infarction, injury from lightening and coma of any cause leading to airway obstruction. • Cardiac arrest **American Heart Association CPCR guidelines:** In 2015, the Emergency Cardiovascular Care Committee (ECC) of the AHA released the Association's newest set of guidelines for CPCR for 2015 include the following:	

Technique of CPCR	• Use cell phone to call '108'ambulance • Trained rescuers should maintain the ratio of 30 compressions,2breaths • Minimize interruption and avoid excessive ventilation • Compression rate-100 to120/min • Compression depth -2 to 2.4 inches • Trained bystanders can use naloxone to treat opioid overdose **TECHNIQUE** In its full, standard form, CPCR, comprises the following 3 steps, performed in order:  • Chest compressions • Airway • Breathing	Explained CPCR technique with the help of power point presentation and video assisted teaching

	For lay rescuers, compression – only CPCR (COCPCR) is recommended.  **Positioning for CPCR is as follows:** • CPCR is most easily and effectively performed by laying the patient supine on a relatively hard surface, which allows effective compression of the sternum • Delivery of CPCR on a matters or other soft material is generally less effective. • The person giving compressions should be positioned high enough above the patient to achieve sufficient leverage, so that he or she can use body weight to adequately compress the chest. For an unconscious adult, CPCR is initiated as follows: • Give 30 chest compressions • Perform the head – tilt chin – lift maneuver to open the airway and determine if the patient is breathing. • Before beginning ventilations, look in the patient's mouth for a foreign body blacking the airway.	

C - Chest compression



One person rescue

- Determine unresponsiveness
- Tap or gently shake the patient and ask “Are you ok”.
- If he is not responding shout for help.
- Place the heel of one hand on the patient’s sternum and the other hand on top of the first, fingers interlaced.
- Extend the elbows and the provider leans directly over the patient (see the image below).
- Press down, compressing the chest at least 2 inches (5 cm) not greater than 2.4inches (6cm)
- Release the chest and allow it to recoil completely
- The compression depth for adults should be at least 2 inches (instead of up to 2 inches, as in the past).
- The compression rate should be at least 100 -120/min
- The key phrase for chest compression is, “Push hard and fast”.

	• Untrained bystanders should perform chest compression – only CPCR (COCPCR) • After 30 compressions, 2 breaths are given; however, an intubated patient should receive continuous compression while ventilations are given 8 – 10 times per minute • This entire process is repeated until a pulse returns or the patient is transferred to definitive care **Two Person Rescue:** • One person positioned at the victim's side performed chest compressions. • Other rescues, positioned at the victims head maintains airway and performs ventilation. • Rescuers should change roles approximately every 1-2 minutes. • Assess for signs of circulation after delivery of the two initial breaths. • Feel for carotid pulse (10sec). • If the victim has circulation, continue rescue breathing (1 breathing 5 to 6sec) and recheck circulation every 2 minutes. • If no pulse say "No Pulse" and prepare for chest compression. • Compression – ventilation ratio is 30 : 2. • Maintain correct position at all times. **Switching:** • Rescuers should change compressor and ventilation roles every 1-2 minutes to	

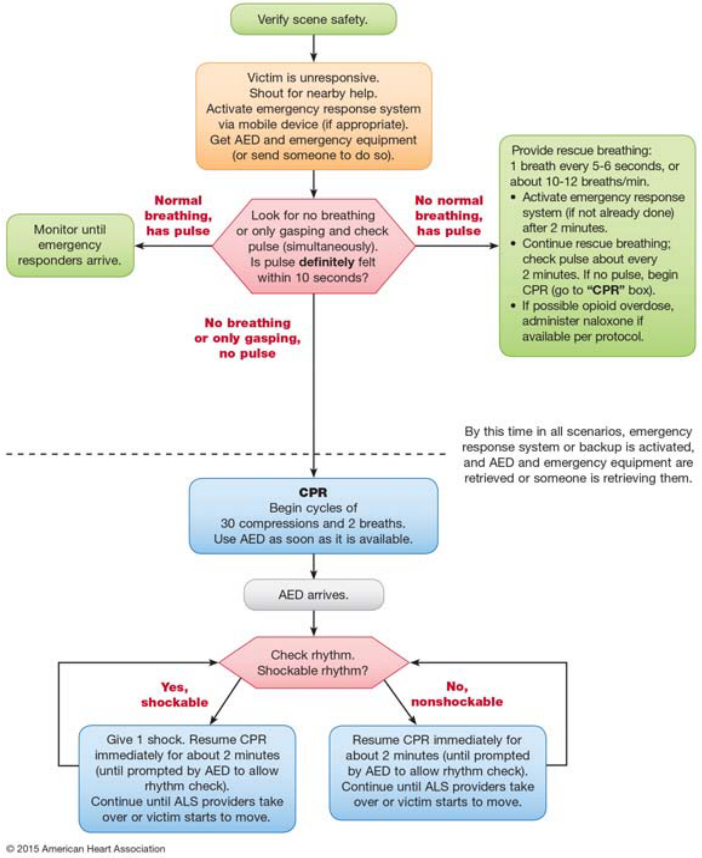
	avoid compressor fatigue. • Exchange position with minimal delay. 1. Ventilator moves to chest 2. Compressor moves to head **CPR for child & Baby** 1. Check to see if the child is conscious i) Make sure the child is in safe surroundings ii) Tap the child gently iii) Ask "Are you Ok"? iv) Look quickly to see if the child has any injury, bleeding or medical problem, chocking. 2. Check breathing i) Place your ear near the child's mouth and nose, watch for breathing. ii) If no breathing give to rescue ventilation. 3. Begin Chest Compression • Place the child on his back. • For a baby, do not tilt the head back too far • For a baby, place two fingers on breast bone and start compression • For a child, place heel of one hand on center of chest at nipple line.	

	• For a child, press down about two inches not greater than 2.4 inches • For a baby, press down about one and half inches. • Do 30 chest compression at the rate of 100-120/minute. • Check the child has started breathing. **A-Airway:** During cardiac arrest, all muscles are relaxed including jaw muscles. This relaxation causes the tongue to fall back and obstruct the airway. The tongue is the most common cause of airway obstruction. If food or vomits is obviously obstructing the airway, turn the person on the back, open the mouth and scope it out with two fingers. Open the airway by one of the following methods. **1.Head tilt-chin lift method:** Position yourself at the person's side. Place one hand on the person's forehead. Place the other hand under the bony position of the lower jaw at the chin. While pushing downward on the forehead, push upward in the chin to support the jaw and help tilt the head back. **2. Jaw thrust methods :** The jaw thrust without head tilt is safest first approach to opening the airway of a person who has a suspected neck injury because the techniques does not involve neck flexion. Place yourself at the person's head. Place your fingers of both the hands behind the angle of the jaw and lift the jaw forward. **B- BREATHING** Immediately place your ear close to the person's mouth so that you can feel the breath and watch the chest. Although studies have conducted and concluded that performing mouth-to–mouth ventilations causes transmission of micro-organism. All	

	CPCR course should include instruction on the use of a pocket mask. **1. Mouth –to mouth breathing** The simplest and fastest way to establish ventilation is mouth-to-mouth respiration once you have opened the airway. Pinching the nostrils prevent air from escaping through the nose during ventilation. Take a normal breath. Give two slow breaths lasting 1.5 to 2 seconds each. Allow exhalation. **2. Mouth –to-nose resuscitation** Use mouth-to-nose resuscitation when it is impossible to achieve a tight seal around the person's mouth or when the mouth cannot be opened. **CHEST-COMPRESSION –ONLY CPCR MAY BE USED AS FOLLOWS** • If you are not able or are unwilling to give rescue breath, give chest compression only. • If chest compressions only are given, these should be continuous at a rate of 100/ minutes. • Stop and recheck the victim only if he starts breathing normally. Otherwise do not interrupt resuscitation. **CONTINUE RESUSCITATIONS UNTIL** • Qualified help arrives and take over • The victim starts breathing normally • You become exhausted. **COMPLICATIONS OF FAULTY RESUSCITATION**	

	The main, complication of faulty resuscitations is thoracic rib fracture, internal injuries, vomiting and aspiration, gastric distension. **ADULT BASIC CARDIAC LIFE SUPPORT ALGORITHM**	

BLS Healthcare Provider
Adult Cardiac Arrest Algorithm—2015 Update

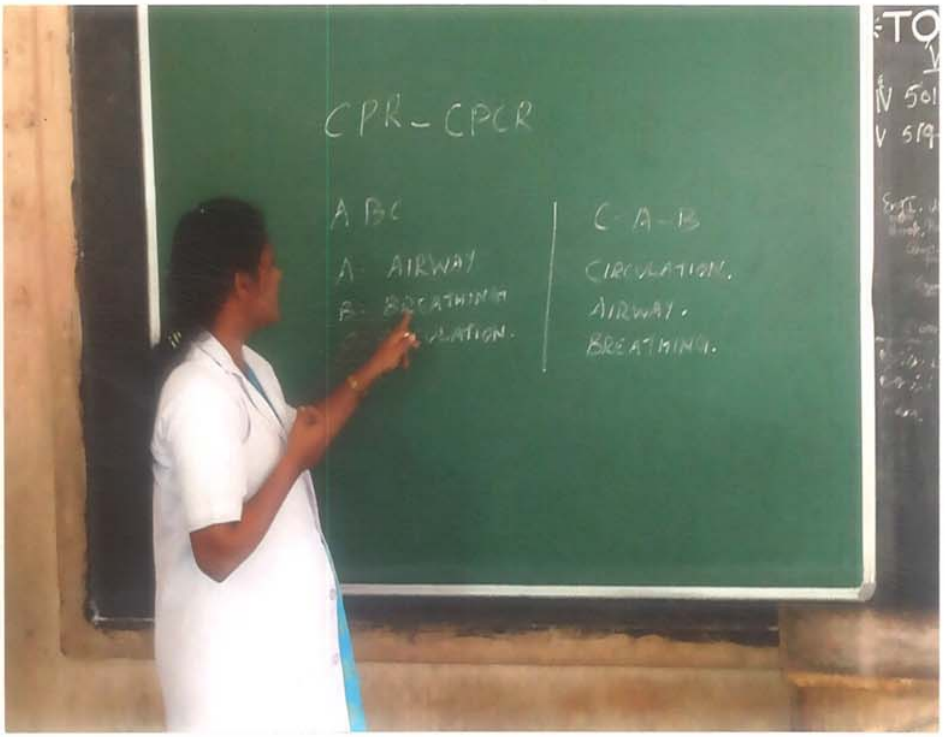


SUMMARY:

So for we have seen about the definition, purpose, objectives, indications, procedure, complications and algorithm of the cardiopulmonary cerebro resuscitation.

CONCLUSION:

Cardiopulmonary cerebro resuscitation is the life support procedure which prevents loss of life, if it is provided in an apt period.


CPR - CPCR
A B C
A - AIRWAY
C - A - B
CIRCULATION.
AIRWAY.
BREATHING.


TOPIC
ASSIGNMENTS


NO. ON ROLL
OF PRE
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DATE 18.2.15 FRIDAY
CPR - CPCR
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